master plan
preliminary draft

GRAN QUIVIRA
(Proposed Salinas)

NATIONAL MONUMENT / NEW MEXICO

This planning publication has neither been approved nor disapproved. Its purpose is to provide planning information and alternatives for further consideration and discussion, and it may undergo considerable revision.

united states department of the interior/national park service

gran quivira

proposed salinas national monument/new mexico

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SUMMARY

THIS MASTER PLAN/ENVIRONMENTAL IMPACT STATEMENT PROPOSES A SALINAS NATIONAL MONUMENT TO BRING TOGETHER IN ONE UNIT OF THE NATIONAL PARK SYSTEM THE THREE NATIONAL PROPERTIES IN THE REGION – GRAN QUIVIRA, ABO, AND QUARAI.

BECAUSE LEGISLATION TO AUTHORIZE A SALINAS NATIONAL MONUMENT MAY TAKE SEVERAL YEARS, THIS PLAN PROVIDES INTERIM DIRECTION ON MANAGEMENT, INTERPRETATION, PROTECTION, AND DEVELOPMENT OF GRAN QUIVIRA NATIONAL MONUMENT, AND ABO AND QUARAI STATE MONUMENTS UNTIL THEIR AUTHORIZATION IS ACHIEVED. THE INTERIM DEVELOPMENT ACTIONS DOVETAIL INTO THE LONG-RANGE DEVELOPMENT CONCEPTS FOR THE THREE AREAS. THEREFORE, THE NEXT LEVEL OF PLANNING AND SUBSEQUENT DEVELOPMENT OF GRAN QUIVIRA CAN PROCEED CONCURRENTLY WITH THE LEGISLATIVE PROCESS LEADING TO THE PROPOSED SALINAS NATIONAL MONUMENT.

INTRODUCTION

BACKGROUND

Legislation

President William H. Taft, under the authority of the 1906 Antiquities Act, set aside in 1909 the Gran Quivira National Monument to protect and preserve the ruins of prehistoric Indian pueblos and associated 17th century Franciscan Spanish mission ruins. On January 11, 1917, President Woodrow Wilson issued Executive Order 2511 ordering the temporary withdrawal of certain lands pending a determination of the advisability of their inclusion within the boundaries of Gran Quivira National Monument. On November 25, 1919, President Wilson issued Proclamation No. 1545 establishing the boundaries as they exist today.

The established boundaries encompassed an area of 610.94 acres (247 hectares), of which 450.94 acres (182.5 ha) were federally owned. The remaining 160 acres (65 ha) were owned jointly by the Museum of New Mexico, the School of American Research, and the University of New Mexico. After several years of

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negotiation, a land exchange was consummated under Bureau of Land Management Exchange NM-038743, and title of the 160 acres (65 ha) was vested in the United States, effective July 9, 1959.

While the initial basis for establishment was the protection and preservation of the prehistoric Indian pueblo and associated 17th century mission ruins, subsequent research and archeological investigations found the area to be more important and interesting than originally believed.

The Region – Prehistorical and Historical

Gran Quivira (or Las Humanas as it was called by the Spaniards) was one of 11 pueblos in the Salinas Province during the 1600's in a very remote part of the frontier. See plate 1.

During both the prehistoric and historic periods, Gran Quivira appears to be the division point between the Pueblo culture to the north and west, and the Mogollon culture to the south and east.

The site is profoundly important archeologically as one of the largest in central New Mexico. In approximately A.D. 900, part-time Mogollon farmers lived in the area peripheral to the Anasazi culture to the northwest. The area developed with traits of each culture, but by A.D. 1300 leaned heavily toward the Anasazi. This ability to absorb new ideas and other groups is illustrated by recent archeological excavations. The investigations showed that new traits (cremations, Tabira-black on white pottery) and accelerated construction suddenly appeared about A.D. 1550. Because the old traits did not disappear, but continued alongside the new, either an influx of people coexisted with the people already there, or new traits were adopted from neighboring groups.

The Salinas area lies between the eastern foothills of the Manzano Mountains and the salt marshes east of the present town of Willard. The salt from these marshes, for which the Spaniards named the area, was used as a major trade item by the Indians. The Spaniards recognized not only this valuable resource, but also the manpower available in the pueblos, which they could use for the advancement of the crown and a few select individuals.

The historic period of Gran Quivira National Monument began in October 1598, when Dan Juan de Onate, Governor of New Mexico, explained his authority and aims through an interpreter from Santo Domingo. As instructed, the puzzled Indians kissed his hand. By this simple act of courtesy, the ancient Indian city, unknowingly, became subject to "His Catholic Majesty, Don Felipe, King of Spain and of the Indies, most firm pillar of our holy Catholic faith" (Hammond and Rey, 1953).

An expansionist Spanish empire with a religious fervor born of an 8-century-long war with the Moors was represented on the Spanish frontier by a few priests, laymen, and soldiers. Here they met a culturally combined hunting, gathering, and dry-farming society that had been on this hill in strength for 300 years or more. Each changed the other. Materially, there were eventually more Spaniards wearing moccasins than Indians wearing shoes. But the priests attempted to replace the intangible threads of Pueblo culture with Spanish religion and civilization.

Missionary work started in the northern part of the province at Chilili about 1612 and spread south, reaching Gran Quivira about 1627. Abo, missionized in 1622, is thought to have had the second mission church built in the province after Chilili. Gran Quivira, the largest of the Salinas pueblos, was a *visita* of Abo for 7 years prior to the arrival of a resident priest in 1629, and Quarai was the seat of the Holy Inquisition of New Mexico. A *visita* was an Indian pueblo with a chapel that was visited periodically by a padre who was resident at a mission and convento at another pueblo.

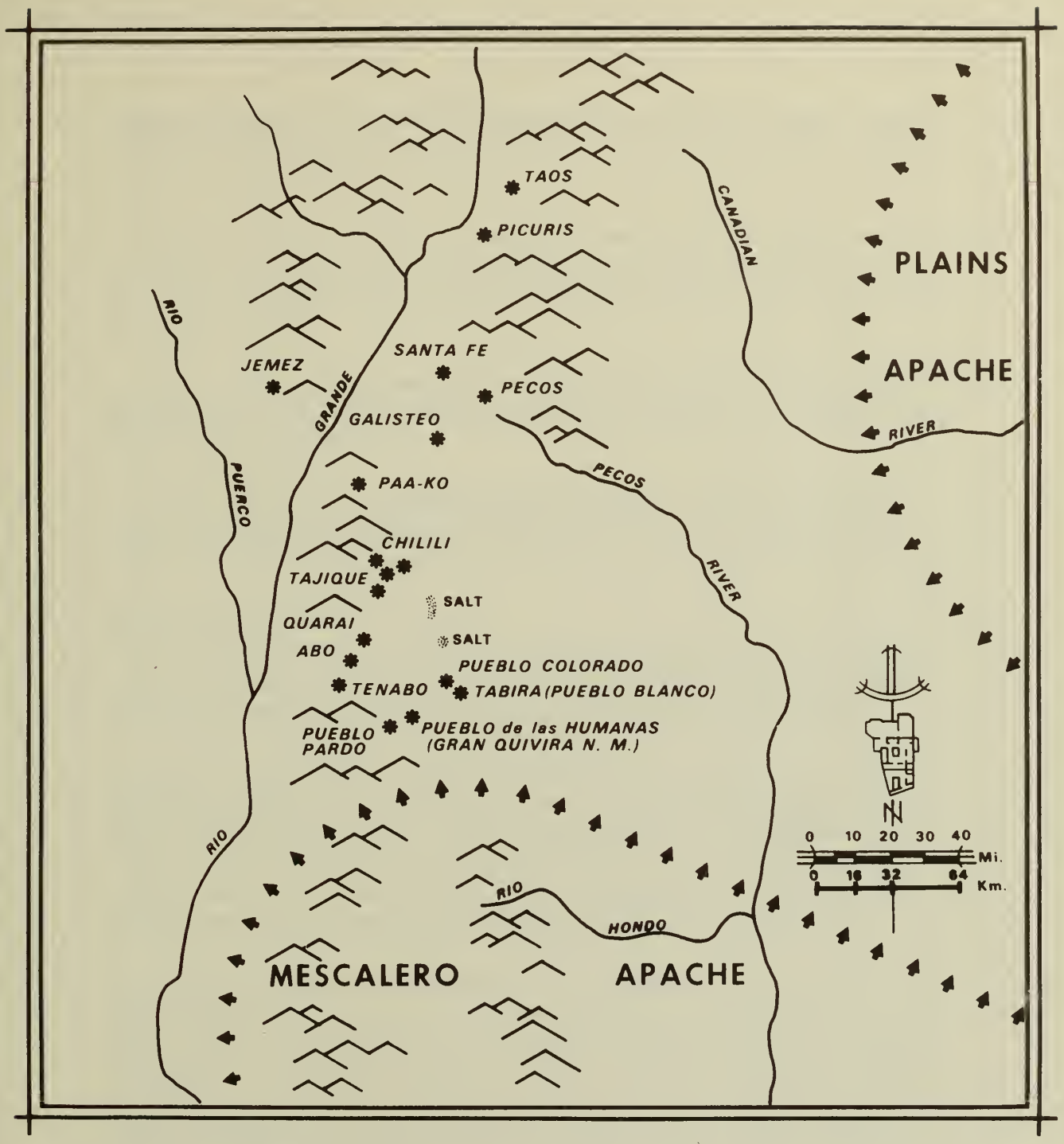
The attempted cultural and religious changes failed and, as the 11 pueblos lived together in history, they also died together. In the early 1670's, less than a century after the first contact, and only 40 years after the first resident priest, the hill was abandoned by both Spaniard and Indian.

Civilization's demands, plus several years of drought, famine, disease, and Apache raids, forced the Indians to move into other pueblos along the middle Rio Grande, or on down to El Paso. By 1677, the province was in the hands of the Apaches, and in August of 1680, the Pueblo Revolt drove the Spaniards from New Mexico. When they returned in 1692, the Salinas Province pueblos were still deserted, and remained so as ruins of a conflict between two very different cultures.

The Resource

Of the 11 pueblos in the province in the 1600's, only five ruin complexes are in public ownership at this time. Three of these sites are accessible to the public and have Federal and State monument status. These are Gran Quivira National Monument and Abo and Quarai State Monuments. Abo and Quarai, with their massive reddish sandstone masonry walls, are among the most impressive mission ruins in the Southwest. The Quarai ruin is probably unsurpassed in grandeur of architecture and size. In many places, the walls of the two missions stand roof-high (about 40 feet or 12.2m).

Primary resources being preserved at Gran Quivira include two excavated 17th-century Franciscan Spanish mission ruins, a prehistoric Tompire Indian village consisting of 21 major mounds (two of which have been excavated), 10 kivas, undetermined numbers of Indian pithouses used prior to development of surface



VICINITY

CENTRAL NEW MEXICO IN 1600'S WITH PARTICULAR REFERENCE TO SALINAS PUEBLO AREAS

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PLATE 1

pueblos, additional features such as two prehistoric reservoirs, "wells," terrace walls, burials, and portions of a prehistoric trail. Approximately 6,000 artifacts have been recovered from the ruins.

In addition to a mission church at Abo, there are at least six large mounds, a major plaza, numerous small outlying structures, prehistoric field plots, numerous pictographs and petroglyphs, and probably several other features such as trails and agricultural terraces.

At Quarai, there are two mission churches and convento, at least eight mounds, possibly two plazas, several depressions (possibly including a large kiva), and additional outlying features.

In order to improve the interpretive program at Gran Quivira and adequately cover the Salinas Pueblo Province, relocated facilities and additional resources for background material are needed.

Previous Planning

Various studies and reports, starting as early as 1916, suggested the inclusion of one or both of the State monuments in the National Park System. Because of inaction, disapproval, or rejection during the years, nothing has been done.

In 1964, the National Park Service conducted an area investigation to study the suitability and feasibility of operating Abo, Quarai, and Gran Quivira as a three-unit monument under a single managing agency. The published report, "Salinas National Monument, New Mexico, A Proposal," concluded that factors were favorable for the establishment of Salinas National Monument and proposed that it be administered and operated as a unit of the National Park System.

When the areas were evaluated concerning their position in the National Park System Plan Themes Structure, they were placed in the "Contact with the Indians" theme. The National Parks Advisory Board found the areas merited classification as possessing exceptional value in commemorating and illustrating the history of the United States. From this, Dr. Erik Reed, retired National Park Service archeologist, concluded that the establishment of these outposts of Christian European civilization at the various pueblos had a considerable acculturative effect on the Indians.

Dr. Reed points out that we know very little, actually, about the processes of cultural change in 17th-century New Mexico pueblos, or about the precise effects of the Spanish and Franciscan influences on local Indian culture. But material and other changes can be demonstrated. Because most of the pueblo ruins at Abo, Quarai, and Gran Quivira have never been excavated, this storehouse of

knowledge remains largely untapped. Historical documentary research and improved stabilization methods are needed prior to any major excavation projects.

Although some historical documentary research has been done on New Mexico (Hackett, 1937), there are still a number of problems for research in the Archives of the Indies in Seville, Spain. Personal information on Frays Letrado, Acevado, and Santander would be especially useful in the interpretive program of the monument. In the Archives of the Indies, there are 1,248 bundles (each 10 to 14 inches or 25 to 35 cm thick) of documents labeled "Santa Fe." It seems highly possible that this quantity of documents would contain some new information on the history of the Salinas Province.

There are specific limited structures that should be excavated for interpretation purposes, or at least tested, at all three sites. Consequently, the protection and preservation of the ruins for future study, continued public availability, and interpretation is highly desirable.

Historically, the three areas are associated neither with famous names nor with any major events of importance in American history. The real importance of these three areas lies in their size, architectural interest, and cultural change. The mission edifices are essentially unmodified originals surviving after three centuries and representing a special and significant local phase of the history of the Spanish Southwest. They illustrate particularly the close interaction of Franciscan missionary establishments with pre-existing large Indian settlements.

There are elements of duplication among the three areas, principally in the mission structures and pueblo ruins; yet each contributes its own special values to the interpretation of the prehistoric Salinas Pueblo Province and of subsequent Spanish cultural and historical influences upon it. At Gran Quivira the story is one of several cultural changes in prehistoric and historic times and a historic change in relationships with neighboring groups.

By contrast, the main current of Spanish missionary influences on this pre-existing culture was concentrated at Abo and Quarai. Known missionary work at Abo began about 1622. The church is presumed to have been built by the Franciscan Father Francisco de Acevedo, beginning in 1629, to serve these Tompiro-speaking Indians. Quarai was built for a Tiwa-speaking Pueblo people. In the 1630's, it functioned as the seat of the Catholic Church Inquisition in New Mexico. Various Franciscans lived there almost continuously until the 1670's. During that time, they brought about several changes in the Indian way of life through the introduction of the new religion, improved agriculture, new domestic animals and plants, new ideas in architecture, and Spanish goods.

A PROPOSED SALINAS NATIONAL MONUMENT

The Salinas National Monument proposal is still valid and holds the key resources to make a viable unit of the National Park System. This master plan proposal provides for the acceptance of such resources and facilities through future legislation, and guides development through the interim period and the first years after enactment so all actions dovetail together.

All three of the sites to be affected by this proposal are listed on the National Register of Historic Sites. Gran Quivira National Monument was established in 1909. Quarai became a State monument in 1935 and Abo in 1938 under the administration of the Museum of New Mexico, and both became registered National Historic Landmarks in 1962.

ENVIRONMENTAL AND PLANNING CONSIDERATIONS

A master plan is prepared and maintained for the management, development, preservation, and use of each area in the National Park System. Graphics, inventories, and narrative statements describe and portray the area's resources and the regional socioeconomic and natural environments.

The basis for all planning rests with legislative mandates, administrative policies, and finally management objectives for the particular area.

The following management objectives have been updated to consider not only Gran Quivira, but also the proposed Salinas National Monument.

MANAGEMENT OBJECTIVES

The following statement by the superintendent of Gran Quivira National Monument reflects park management's needs and goals relative to this master plan.

To Administer the Park

Provide for an administrative maintenance headquarters, visitor contact and information station, and interpretive center central to the three proposed units of the Salinas National Monument.

Base all management objectives on the proposed three-unit Salinas National Monument, implementing only those portions pertaining to the centrally located information-contact station and Gran Quivira until legislative action is finalized.

Develop only those minimum physical facilities at each site necessary to carry on an interpretive program, preserve the resources, serve the visitor, carry out the fee collection responsibilities, and provide for the daily 24-hour protection of the area.

Initiate research programs with the following objectives: sound resource management, visitor-use carrying capacities, extent of historical and archeological resource, history of 17th-century Spaniards in Salinas Province, improved ruins stabilization and preservation methods.

To Preserve the Resource

Preserve the historic and prehistoric resource by a sound and continuing program of ruins stabilization.

Provide for the maintenance of the historic scene in the selection of development sites and in the degrees to which the area is developed.

Carry on a continuous erosion control and landscape rehabilitation program designed to restore area lands and vegetation to conditions that will facilitate the maintenance of the historical and natural scene, and alleviate problems arising from modern man's abuse of the land.

To Serve the Visitor

Operate the three sites as day-use areas with hours of operation adjusted to meet demand.

Develop an interpretive program that will assist the visitor in understanding the "chain of events" in the Salinas Province, that part of New Mexico represented by the monument, and throughout New Mexico. Such a program is not to be restricted to only the physical ruins displayed, but must involve itself in the cultural conflicts that existed prior to and during the early Spanish contact period. That portion of the Salinas Province story represented at each of the three sites is to be told on site and woven into the whole story of the province.

Develop the capabilities necessary to take the interpretive story off site during off-season periods.

Develop the interpretive trails in such a manner that touring of the physical remains displayed will follow closely the theme developed for each area.

Assure that the personal qualities of interpretation, while supplemented by, are not replaced by mechanical facilities and exhibits.

N.F. NATIONAL FOREST

STATE PARKS & MONUMENTS

NATIONAL PARKS & MONUMENTS

THE REGION

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PLATE 2

THE REGION TODAY

NATURAL ENVIRONMENT

Major Natural Resources

Regional Geography. The study area is centrally located in the New Mexico desert highlands (see plate 2). The area is within the Basin and Range Province on the dividing line between the Mexican Highland and Sacramento sections (Fenneman, 1931).

Gran Quivira is situated on the northeast end of the Chupadera Mesa. The area lies east of the Rio Grande Valley, northwest of the Tularosa Basin, and south of the Estancia Basin.

Abo and Quarai State Monuments lie about 11 miles (18 km) apart in gently rolling valleys close to the eastern base of the Manzano Mountains in the western part of Torrance County, New Mexico. Quarai lies 8 miles (13 km) northwest of Mountainair in a gently rolling, wooded valley. Abo is approximately 9 miles (14.5 km) west of Mountainair and situated in an open, grassy valley on the edge of Abo Wash.

Climate. All three sites are situated in the upper Sonoran life zone that is characterized by low rainfall (usually less than 15 inches or 38 cm per year) and extremes of temperatures. Rain falls primarily during the summer months and is characterized by brief but torrential storms. At Gran Quivira, the average snowfall is 25 inches (63.5 cm) with an annual precipitation of 14.62 inches (37 cm), but for the past several years, precipitation has been below average. The maximum recorded temperature is 103°F (39 C), and the recorded minimum is -26°F (-32 C). The prevailing winds are from the southwest and high velocities are common during winter and spring months. Summer thunderstorms, accompanied by severe lightning, are not uncommon. The average growing season varies from 160 days on the plains to about 139 days at Tajique. Some growing seasons have been as short as 95 days. The last frost in spring occurs about May 9 and the first frost in the fall about October 8.

Geology. The geology at the Gran Quivira site is fairly well known; but that of Abo and Quarai need determination.

Most of the rocks exposed at the surface that extend to a depth of at least 1,500 feet (457 m) in the vicinity of Gran Quivira are Permian in age. The San Andres limestone is exposed at the surface and is underlain by the Glorieta sandstone that is underlain by the Yeso formation. All these formations are cut by diorite dikes of Tertiary age. Recent alluvium covers the older rocks in the broader valleys.

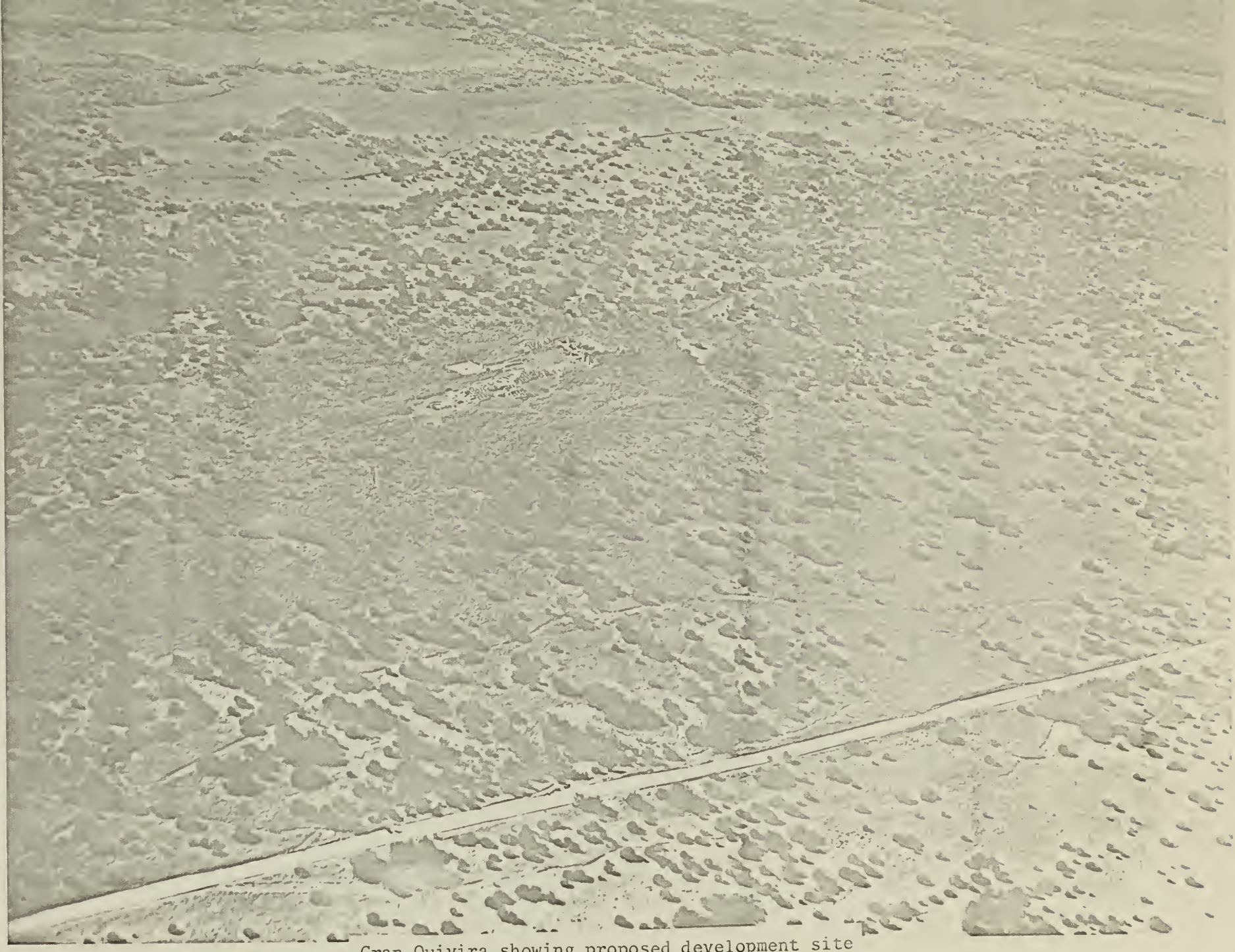
The sedimentary rocks in the Gran Quivira area dip gently to the southeast. Because of the intensity of solution and subsidence activity, it is impossible to measure the degree of dip by surface methods, and subsurface data are inadequate for reliable determination.

The San Andres limestone, the uppermost strata in the Gran Quivira area, extends to depths greater than 400 feet (122 m). It is light gray to black fine-grained, thick bedded to slabby limestone containing gray to white gypsum beds and some sandstone. It is intensely jointed, and weathered surfaces have a blocky appearance. Although not known as a water-bearing formation in the Gran Quivira area, there may be local zones of perched water in the formation because "seeps" are reported in the San Andres on drillers' logs.

The Glorieta sandstone is well cemented, crossbedded buff to brown, medium-grained quartz sandstone ranging in thickness from 275 feet (84 m) north-northwest of the monument to about 100 feet (30 m) near the monument. No wells in the area obtain water from the Glorieta sandstone. The formation lies above the main zone of saturation and the possibility of obtaining perched water from the formation is slight. The probability of solution of gypsum and limestone in the underlying Yeso formation would result in slumping or collapse of any impermeable beds in the upper Yeso and permit water to percolate to the main saturation zone.

The principal water-bearing formation in the Gran Quivira area is the Yeso formation. The Yeso is made up of siltstone, fine-grained sandstone, gypsum, and some limestone. The pink, gray, buff, or tan sandstones and siltstones are generally gypsiferous. The gypsum beds range from white to gray. They commonly contain some shale, siltstone, or fine-grained sandstone. The limestones are gray, buff, or brown. In the northern half of the Gran Quivira quadrangle, the Yeso is about 680 feet (205 m) thick; but to the south, in the vicinity of the monument, the Yeso may be 1,000 feet (305 m) thick.

With the exception of shallow wells dug in the alluvium of the valley floors, all wells in the vicinity obtain water from the Yeso. Although the great depth to water and poor chemical quality of water in the Yeso in many areas has apparently discouraged prospecting for large quantities of water, yields of more



Gran Quivira showing proposed development site

than 100 gallons/minute (379 liters/minute) have been obtained in the vicinity of Mountainair and at a site about 40 miles (64 km) south of Gran Quivira.

Igneous rocks of Tertiary age crop out in many places in the area. These are dioritic dikes and sills. The dark diorite minerals weather to a greenish-gray, and most exposures have a salt-and-pepper appearance because of the combination of light feldspar crystals with the dark minerals. The diorite is not known to be water bearing and it is not likely that it would be; but it is possible that perched water might accumulate on top of a dioritic sill, given a favorable structural situation, though no such occurrence has been found.

Quaternary alluvium occupies broad valleys and most of the undrained depressions in the area. In some of the deeper gully exposures on the upper reaches of the valleys, the alluvium is poorly sorted and ranges in texture from silt to moderately coarse gravel. Material in the broad undrained depressions is probably fine-grained sand or silty sand. At least 70 feet of alluvium was penetrated in the dug wells in sec. 33, T. 1N, R. 8E, but the total thickness may be significantly greater. The alluvium is known to be water bearing only in sec. 33, T. 1N, R. 8E; in this area the dug wells usually yield 2 to 3 gpm, but the yield of some of the wells decreases to a reported 5 quarts per day after prolonged dry periods.

We have no such data for Abo or Quarai, but similar data may be available from written logs of the wells drilled in the vicinities.

Soils. One of the most important natural resources of any region is its soils. The soils of the Claunch-Pinto Soil and Water Conservation District (in which all three sites are located) are generally unstable. Both wind and water erosion are occurring at the three sites.

The soils of the three areas are discussed separately. Soil maps are included for the three sites. Quarai soils (Plate 3).

Witt loam occurs on upland piedmont fans in the western part of Torrance County. The surface layer, about 4 inches (10 cm) thick, is friable brown loam leached of lime. This soil is moderate in fertility and organic matter content. Moisture absorbance is moderate, and moisture storage capacity is high. It is easily compacted when moist and slowly permeable when compacted. Surface runoff is medium to rapid. Internal drainage is medium to slow. Although easily tilled, it is readily eroded if clean tilled or not protected by adequate plant cover.

La Fonda loam occurs on upland piedmont fans, on ridge crests, and slopes. The surface layer, about 4 inches (10 cm) thick, is friable loam containing lime and has a moderate platy and granular structure. This soil is readily permeable to roots, air, and water. It has a moderate water absorption and a moderate to high moisture storage capacity, and tends to crumble upon wetting. Runoff is medium to rapid depending upon the slope. Internal drainage is medium. Fertility and

organic matter content are low. This soil, easily tilled, is readily eroded when the surface is left unprotected.

Manzano loam occurs on flood plains and in swales in the southern part of the area. The surface layer, about 7 inches (18 cm) thick, is brown, friable loam with a moderate granular structure. It is fertile, easily tilled, absorbs water readily, and has a high moisture storage capacity. Surface runoff is medium, and internal drainage is moderately slow. This soil is occasionally to frequently flooded, and water erosion is hazardous in places. Overflow normally occurs at least once a year, usually in late summer. Abo soils (Plate 4).

Encierro channery loam occurs on ridge crests and slopes. The surface layer, about 2 inches (5 cm) thick, is dark brown channery loam. It is leached free of lime in many places and rests abruptly on fractured sandstone bedrock. This soil is shallow and froughty. It has low water storage capacity but absorbs water at a moderate to rapid rate. Runoff is medium to rapid, and internal drainage is medium. Plant roots are restricted to the soil material above the bedrock. It is unsuitable for cultivation. Moderate water erosion occurs on the stronger slopes.

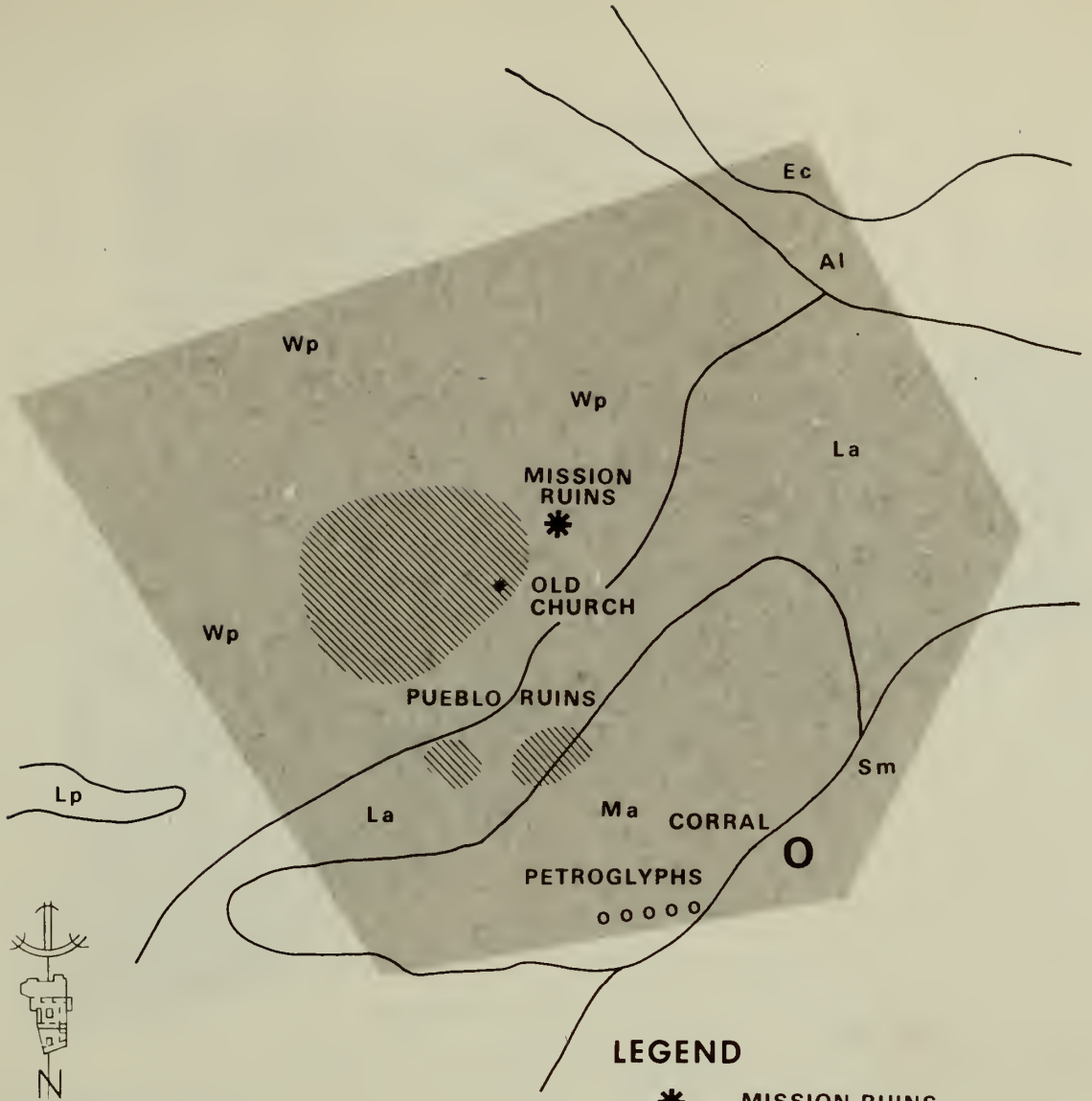
Alicia loam occurs on piedmont fans, and valley fill on the uplands in the western and eastern parts of the Torrance area. The surface layer, about 6 inches (15 cm) thick, is friable, reddish brown granular loam. Organic matter content and fertility are moderate. The water storage capacity is moderate, and surface runoff is slow to medium. Roots, air, and water penetrate readily. Water and wind erosion is severe when there is inadequate plant cover. Headcuts and gullies are common in areas that receive runoff from surrounding areas. Gran Quivira soils (Plate 5).

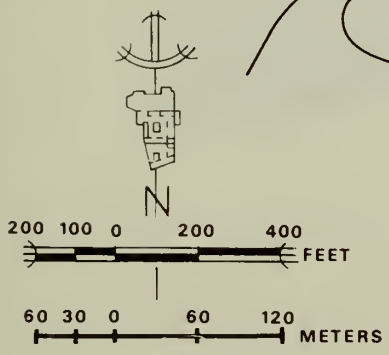
Chupadera loamy fine sand, the primary soil of Gran Quivira, occurs on crests and side slopes of ridges with 5 to 15 percent slope. It has a low moisture storage capacity. The surface layer absorbs water rapidly, and internal drainage is rapid above the bedrock although surface runoff is slow. Plant roots penetrate easily, but are primarily restricted to the material above the weathered bedrock. It is subject to severe wind erosion when there is inadequate plant cover.

The sandy Palma and Otero soils absorb water rapidly and have a moderate capacity to store moisture. Moisture is released quickly and plants respond quickly to rainfall. Surface runoff is slow to very slow, and internal drainage is medium to rapid. Fertility is low, and the organic matter content is low. These soils are easily eroded by wind when they do not have adequate plant cover.

Air. The air quality in the Torrance County area is generally excellent; the exception is during times of drought and moderate winds when dust is an annoying factor.

Water. There is no permanent surface water at the Gran Quivira site, but several wells have been drilled on the monument and in the immediate vicinity.





LEGEND

- ✱ MISSION RUINS
- PUEBLO RUINS
- o o o o PETROGLYPHS
- O POSSIBLE EARLY SPANISH CORRAL
- * OLD CHURCH

SOILS

- Al ALICIA LOAM
- Ec ENCIERRO CHANNERY LOAM
- La LA FONDA LOAM
- Lp LAPORTE-ROCK OUTCROP COMPLEX
- Ma MANZANO LOAM
- Sm STEEP ROCK LAND
- Wp WITT LOAM

ARCHEOLOGY

QUARAI UNIT

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PLATE 3

LEGEND

- MISSION RUINS
- PUEBLO RUINS
- o o o o PETROGLYPHS
- z z z z z PICTOGRAPHS
- FIELD HOUSE

SOILS

- Al ALICIA LOAM
- Cg CHILTON GRAVELLY LOAM
- Ec ENCIERRO CHANNERY LOAM
- La LA FONDA LOAM
- Mo MORIARTY CLAY LOAM
- Pz PREWITT & MANZANO SOILS
- Sc SCHOLLE GRAVELLY LOAM
- Sm STEEP ROCK LAND

N

400 200 0 400 800 FEET

120 60 0 120 240 METERS

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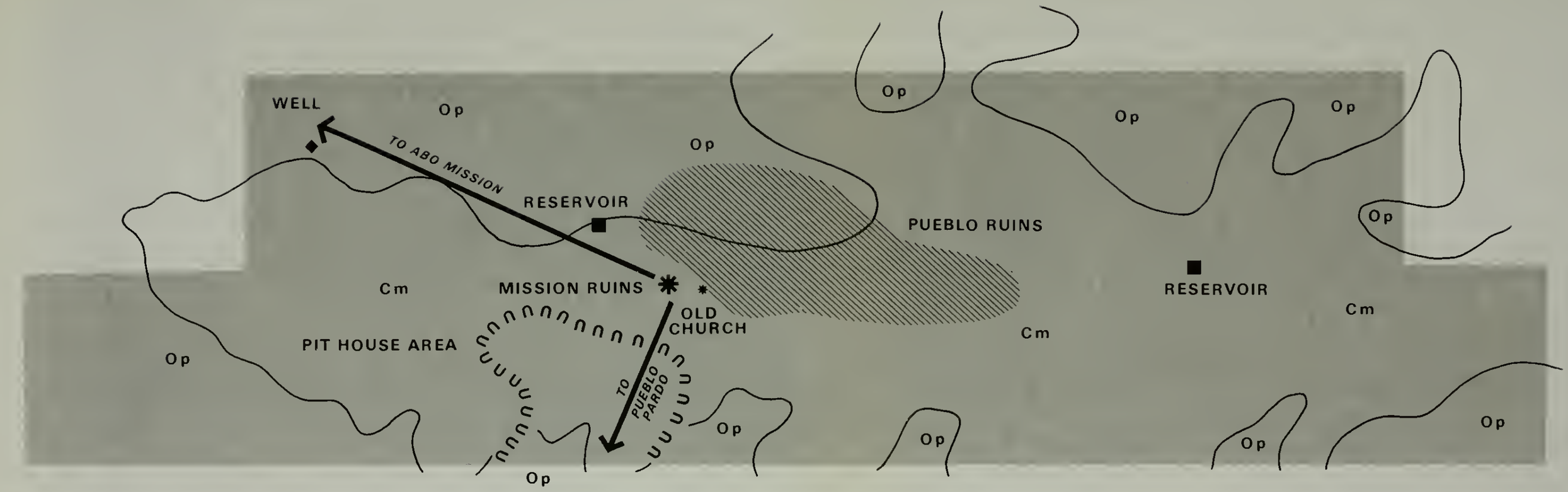
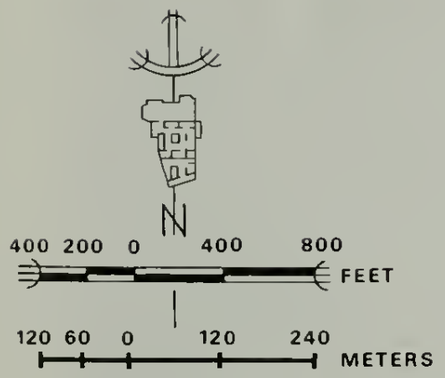
PLATE 4





SOILS

Cm CHUPADERA LOAMY FINE SAND

Op OTERO & PALMA SOILS

LEGEND

- ✱ MISSION RUINS
- PUEBLO RUINS
- ← PRE-HISTORIC TRAIL
- ■ PRE-HISTORIC RESERVOIR
- U U U U U PIT HOUSE AREA
- ◆ PRE-HISTORIC WELL
- ✱ OLD CHURCH

ARCHEOLOGY

GRAN QUIVIRA UNIT

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PLATE 5

There are extensive data on the availability of ground water, as well as excellently written drilling logs and information on the water quality of the wells in the Gran Quivira area (Clebsch and Titus, 1960).

The Abo site has an intermittent small stream, a branch of which bisects the archeological site. Some erosion of the archeological site is evident.

The Quarai site is also bisected by a wash. Although considerable erosion is evident, erosion of the archeological ruins is not a significant factor at this time. However, stabilization is required to prevent future deterioration of the site. There is evidence that at least two springs emerge in the Quarai vicinity, and water rights to these springs are held by a number of individuals in the village of Punta de Agua.

Vegetation. The vegetation of the three sites is typical of the upper Sonoran life zone. The three sites are disturbance areas, and vegetative recovery is very slow because of the low rainfall. The pinyon pine *(Pinus edulis),* one of the dominant plants in the pinyon-juniper community, is notably lacking in the archeological sites, perhaps because of intensive use of the pinyon for building, firewood, and food by the early inhabitants.

Gran Quivira is on an exposed knob that is subjected to extremes in weather. Wind erosion on the south-facing slopes is a common problem. The dominant species are one-seeded juniper *(Juniperus monosperma,* nomenclature follows Correll and Johnston, 1970), cholla cactus *(Opuntia imbricata),* four-wing saltbush *(Atriplex canescens),* and narrow leaf yucca *(Yucca elata).* Associated species of grasses and forbs are blue *(Bouteloua gracilis),* hairy *(B. hirsuta),* and sideoats grama *(B. curtipendula);* New Mexico *(Schizachyrium scoparium neomexicanus)* and sand bluestem *(Andropogon Hallii);* and sand dropseed *(Sporobulus cryptandrus).* Oaks (*Quercus* sp.), sagebrush *(Artemesia),* snakeweed *(Xanthocephalum),* winterfat *(Eurotia lanata),* and a variety of cactus species are also present.

The Abo site is in a shallow valley, and, unlike Gran Quivira, is not subjected to the extremes of wind. The relatively flat site is subjected, however, to water erosion during the torrential rains of late winter and early spring. The area is covered with abandoned fields and pueblo ruins; the vegetative types reflect this disturbance. The dominant species are blue and hairy grama, one-seeded juniper, alkali sacaton *(Sporobolus airoides),* cholla, and a variety of forbs. Periodic grazing has occurred at the Abo site for many years.

Quarai, located at the mouth of several draws, is periodically flooded. This factor, and the presence of subterranean water, provides a somewhat different habitat than that of the other two sites. Cholla dominates the unexcavated pueblo ruins, and it and one-seeded juniper are common shrubs. Western wheatgrass *(Agropyron smithii)* and various species of cactus are common. The area southeast

of the church and the ruins contains a cottonwood grove *(Populus* spp.) interspersed with wild roses *(Rosa* sp.) and various annuals and shrubs. There are no known rare or endangered plant species at any of the three sites.

Wildlife. The fauna at the three sites is typical of the upper Sonoran life zone. While there are no resident populations of large or game animals within the proposed monument, mule deer *(Odocoileus hemionus,* nomenclature follows Blair *et al.,* 1957 and Borror and Delong, 1955) occasionally travel through the monument, and a herd of antelope *(Antilocapra americana)* reside 6 miles east of Gran Quivira. Smaller mammals include the coyote *(Canis latrans),* bobcat *(Lynx rufus),* desert cottontail *(Sylvilagus auduboni),* jackrabbit *(Lepus californicus),* badger *(Taxidea taxus),* striped *(Mephitis mephitis),* western spotted skunk *(Spilogale gracilis),* kit fox *(Vulpes Macrotis),* white throated wood rat *(Neotoma albigula),* grasshopper mouse *(Onychomys leucogaster),* deer mouse *(Peromyscus maniculatus),* and porcupine *(Erethizon dorsatum).*

This semi-desert community supports a number of reptiles, among which are the collared lizard *(Crotaphytus collaris),* the horned lizard *(Phrynosoma platyrhinos),* and the desert spiny lizard *(Sceloporus magister).* Other reptiles that are either residents or visitors to the proposed monument site are the desert striped whipsnake *(Masticophis taeniatus),* and the prairie rattlesnake *(Crotalus viridis).*

More than 110 species of birds have been observed at Gran Quivira and there are a number of insects and other anthropods present. There are no known rare or endangered animal species in the proposed Salinas National Monument.

Among the venomous animals present in the monument are the black-widow spider *(Latrodeous mactans),* centipede (class *Chilopoda),* scorpion (class *Arachnida,* order *Scorpionida),* and rattlesnake. The arthropods are generally retiring and nocturnal and present little hazard to the visitor. On the other hand, rattlesnakes often sun themselves during daylight hours when visitors are in the ruins area. These ruins provide an excellent habitat for rattlesnakes, and sightings by National Park Service personnel are common. Although generally not considered an aggressive animal, these reptiles may strike without warning when surprised or during the times when they are molting.

Ecological Considerations — Topography

Gran Quivira. This site is on the end of a ridge that slopes gently downhill on the north, south, and west. The east end of the area is nearly level. The site is subject to wind erosion on exposed slopes and to some water erosion during heavy summer rains.

The land surface in the proximity of Gran Quivira is a typical rolling to hilly karst topography. The surface features are controlled largely by the solution of

limestone that underlies the entire area. Surface drainage is poorly developed. There are no perennial streams. The courses of most of the intermittent streams are short, and runoff from the juniper- and pinyon-covered rocky slopes drains into closed depressions where the water evaporates or disappears beneath the surface. Gentle slopes are covered with a moderately thick sandy soil that has been cultivated extensively in past years by dry-farming methods. At present, little land is under cultivation, but many of the old fields still show the effects of cultivation; drift sand is common and the natural vegetation has not returned even to fields that have lain fallow for many years.

Quarai. The ruins at the Quarai site are situated at the mouth of several small draws. There is evidence that the site suffers from occasional flooding after heavy rains. The area west of the site is presently being farmed. Present flooding and subsequent sedimentation on the monument originate in this field and rangeland to the west.

Abo. The Abo site is in a valley between gently rolling hills. Although the site is nearly level, a portion of Abo Wash bisects the archeological ruins. Some erosion of the ruins is occurring on the east side of the wash. There is also evidence of some grazing at the site with the probable degradation of archeological sites.

SOCIOECONOMIC ENVIRONMENT

Regional Socioeconomic Environment

Within 50 years after New Mexico became a State in 1912, its population tripled. However, its population growth rate was lower than the national average during the 1960's:

TABLE 1. POPULATION TRENDS OF NEW MEXICO AS COMPARED TO THE UNITED STATES

Year	New Mexico	Percent change from previous period	United States	Percent change from previous period
1910	327,301	-	91,972,266	-
1950	681,187	108	150,697,361	64
1960	951,023	40	179,323,175	19
1970	1,016,000	6.8	204,765,770	14

This decline was probably due to the decline of the potash and oil industries, a gradual abatement of military installations, a reduction in railroading, and a decreasing birth rate. New Mexico has the fifth lowest population density in the United States — 7.8 people per square mile in 1960, increasing to 8.4 in 1970.

The rural population in New Mexico is expected to remain fairly stable in the future. Table 2 contains information on the per capita personal income and on personal income in New Mexico. On a State-wide basis, 18.5 percent of all families are below the poverty level, and 6.3 percent of the families are on public assistance.

The region surrounding Gran Quivira consists of Torrance, Socorro, and Lincoln Counties. Table 3 contains general social and economic characteristics of the region.

Local Community Socioeconomic Environment

Torrance County, New Mexico, has a total population of 5,290 persons, of which 2,411 have Spanish as their first language. The U.S. Bureau of Census considers the population of the county to be rural in nature. Income per capita is low. More than 40 percent of the individuals and 32.6 percent of the families are classified below the poverty level. The figure is 53.6 percent for the Spanish surname portion of the population.

The median years of school completed by males in the county is 9.1 and that of females is 10.7 years. While 41.1 percent of the females attending school graduate, only 36.1 percent of the males graduate.

Gran Quivira National Monument and the proposed additions of Abo and Quarai are all near and supported by the town of Mountainair in southwest Torrance County. (Gran Quivira National Monument, situated partially in Socorro County, has little commercial or community contact with that county, because it is oriented toward Torrance County.) With little industry or active tourism, the nearby communities of Mountainair, Willard, and Corona depend almost entirely on trade from local ranchers for their existence.

Although Mountainair is basically a center for the surrounding ranches, the proximity of Albuquerque with its cheaper prices diminishes the importance of local areas as sources of supply. Thirty years ago the area was a pinto bean production center, but it has shifted to cattle ranching with a great drop in population. The population of the county as a whole dropped 18.6 percent between the 1960 and 1970 censuses. Mountainair probably had a greater drop because the county's other major town, Moriarty, appears to be growing. Mountainair's population in 1970 was 1,022 and the school population was 450. This changed in the spring of 1973 with Mountainair's population dropping to 900, and the school population dropping to 405. Ring Fabricators, a manufacturer of small metal parts, will bring new industry to Mountainair with plans to employ 15 local people immediately, increasing to 200 to 250 people within 5 years. They are currently leasing an ex-Job Corps camp until 1980. Only the management personnel are to be from outside the area.

In 1973, Gran Quivira, through salaries, services, and assumed visitor spending was responsible for gross expenditures of approximately $225,000 into the town's economy. This amounts to approximately $66,000 in direct personal income. Through redistribution and using a factor of 2.5 (all factors and methods of figuring economic impact on the area are based on information available in Swanson, 1969), the total direct and indirect income will approximate $165,000. Therefore, any proposal that would increase the number of visitors and their length of stay in the area should also cause an increase in these figures.

TABLE 2. PER CAPITA PERSONAL INCOME AND PERSONAL INCOME IN NEW MEXICO.

REGIONAL PER CAPITA PERSONAL INCOME

	1972	1973	Percent Increase	National Rank
UNITED STATES	$4,492	$4,918	9.5	
SOUTHWEST	3,965	4,298	8.4	
Arizona	4,263	4,504	5.7	31
Texas	3,991	4,336	8.6	33
Oklahoma	3,795	4,189	10.4	37
New Mexico	3,564	3,764	5.6	47

REGIONAL PERSONAL INCOME (Millions of dollars)

	1972	1973	Percent Increase
UNITED STATES	$935,350	$1,032,045	10.3
SOUTHWEST	68,568	75,731	10.4
Texas	46,486	51,144	10.0
Oklahoma	9,995	11,156	11.6
Arizona	8,292	9,268	11.8
New Mexico	3,796	4,163	9.7

Note: Details may not add to totals because of rounding.
SOURCE: U.S. Department of Commerce, Survey of Current Business.

TABLE 3. GENERAL REGIONAL, SOCIAL, AND ECONOMIC CHARACTERISTICS

	COUNTY			STATE
	Socorro	Lincoln	Torrance	
Population	9,763	7,560	5,290	1,015,988
Percent change from 1960 to 1970	-4.0%	-2.4%	-18.6%	6.8%
Median earnings				
Male	$5,544	$4,217	$4,444	$5,417
Female	$2,528	$2,937	$2,293	$1,931
Per Capita Income	$1,776	$2,526	$1,797	$1,985
Percent of all families with income less than poverty level	29.5%	20.7%	32.6%	18.5%
Percent of all families receiving public assistance	20.0%	9.4%	24.3%	6.3%
(Rural Non-Farm)				
Total employed	1,077	2,458	1,166	68,909
Ag., Forestry, and Fisheries	111	132	152	4,946
Construction	102	188	149	6,584
Transportation, communication, and other public utilities	141	184	106	4,822
Wholesale and retail trade	136	590	246	16,183
(Rural Farm)				
Total employed	128	297	327	15,018
Ag., Forestry, and Fisheries	33	150	178	6,769
Construction	4	33	26	811
Wholesale and retail trade	12	21	42	1,958
Professional and related services	30	38	31	4,161

"Rural" is defined as those places not classified as urban. "Urban" may be defined as those places in which more than 2,500 persons live. The rural population is subdivided into the farm and non-farm populations. The farm population consists of persons living on places of 10 acres or more from which sales of farm products amounted to $50 or more in the preceding calendar year or on places of less than 10 acres from which sales of farm products amounted to $250.00 or more in the preceding year.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Census of Population: 1970. General Social and Economic Characteristics, and U.S. Bureau of Reclamation, New Mexico Westwide State Report, 1973.

Analysis of Visitor Groups

The monument is on New Mexico 14, at the end of a paved highway, 26 miles (42 km) south of Mountainair and U.S. Highway 60. The monument has had a steady increase in visitation since 1925, with a record 37,000 visitors in 1972. Since 1962, visitation has increased approximately 15 percent per year – from 9,570 to 37,000 visits. While this is quite surprising because Gran Quivira is not considered a destination area for travelers, it is evident that people are becoming more interested in their cultural background and the history of the area they live in. Still, most persons traveling on U.S. 60 are not aware of what is offered at Gran Quivira and hesitate to make the side trip from Mountainair, because they will have to back-track to continue their trip. Those who decide to take the time are pleasantly surprised and interested by the massive ruins and the history of the hill.

The possibility of paving the 39 miles (63 km) of road between Gran Quivira and New Mexico 54 north of Carrizozo is presently receiving strong support. Visitation is expected to double within 2 years when New Mexico 14 is paved south of Gran Quivira so that visitors can more readily continue on to U.S. 54 and south central New Mexico. While New Mexico 14 and U.S. 60 are not major traffic thoroughfares, the monument is only 65 miles (104 km) south of the heavily traveled interstates, I-40 and I-25.

There are three basic categories of visitors at Gran Quivira: school groups, vacation families and individuals, and 1-day (usually weekend) visitors from nearby urban areas. Approximately 40 percent of the visitors are from New Mexico. The normal visit is less than 2 hours. The visitor expects the three sites to be archeological, but these expectations are presently thwarted at Abo and Quarai, because there is little excavation and no interpretation.

The story of the monuments involves the Pueblo Indians, the Spaniards, and their interactions with the area. It is, therefore, of particular interest to present-day descendants of these groups.

If the three areas are consolidated, the monument will be centered on a through-vacation-route and many more visitors will probably stop "just because it is there."

The major part of the park, and the recreational and archeological areas and facilities of the State of New Mexico are within a 200-mile radius of Gran Quivira. These include Cibola National Forest, with six campgrounds in the Manzano Mountains 50 miles (80 km) to the north and one in the Gallinas Mountains 20 miles (32 km) to the east; Abo and Quarai State Monuments, 38 and 30 miles (61 and 48 km) northwest of Gran Quivira respectively; Manzano State Park 6 miles (10 km) north of Quarai; and Valley of Fires 46 miles (74 km) south of Gran Quivira.

THE PLAN

In considering Gran Quivira and its place in the Salinas Province Pueblo culture, it is important to note that Gran Quivira is only one part of this fascinating historic story. So that the visiting public can fully understand and appreciate this phase of exploration, settlement, and cultural contact, major management changes are necessary in the operation and interpretation of Gran Quivira.

The present interpretive story must be expanded to include more on the Salinas area. Such a possibility exists in the development and proper interpretation of Abo and Quarai State Monuments. Presently, many visitors come to Gran Quivira to ask about Abo and Quarai because interpretation does not exist at either area.

While Gran Quivira's resources have been preserved, maintained, and researched during the last 64 years, facilities for visitor information and interpretation have not materially changed in the last 40 years. The visitor center and administration offices are converted residences of 1925 and 1932 vintage with approximately 700 sq. ft. (65 sq. meters) of floor space each. A small picnic area and a self-guided trail through the ruins complete the development available for visitor use.

The pressing need for adequate facilities, more complete interpretation, and proper contact and orientation becomes evident as we strive to appease the growing interest of modern-day visitors.

PROPOSED LEGISLATION

In considering these factors, and the interest of visitors in history and cultural backgrounds, the 1964 proposal for Salinas National Monument to combine Gran Quivira, Abo, and Quarai into one historical monument is still valid. It is, therefore, recommended that an updated Salinas National Monument proposal be carried through to enactment, and the monument established as a unit of the National Park System.

The developments of the proposed monument would consist of a centrally located visitor center and administrative base in Mountainair, and three smaller visitor-contact stations at Gran Quivira, Abo, and Quarai.

Existing and proposed developments of the proposed Salinas National Monument

	Existing	Proposed
Mountainair	None	Centrally located visitor center, administration, and maintenance facility.
Gran Quivira	Visitor center and administrative facilities. Picnic area, personnel housing, parking lot, and road.	Removal of existing visitor center and administrative buildings and site restoration. A new visitor-contact station, small picnic area, parking and access road, out of the historic scene. Reduced housing at the present location.
Quarai	Visitor center and one-family residence atop and adjacent to the ruins of a pueblo mound. Parking lot and access road.	Visitor-contact station and new housing relocated and out of the historic scene. New parking lot. Acquisition of additional land.
Abo	No visitor facilities. Access road. Five ranch complexes surrounding the monument.	Visitor-contact station, new access road and parking, out of the historic scene. Housing for personnel. Acquisition of additional land.

INTERIM DIRECTION

Legislation to authorize a Salinas National Monument proposal requires many levels of approval and under even favorable conditions, several years could elapse before the combined areas and the Mountainair facility would be operational. Meanwhile, immediate development and stabilization are sorely needed in the three historic locations. The concepts and plan elements proposed in this master plan implement the management objectives and guide development through these critical years and into the first years after enactment.

Upcoming development proposals for Gran Quivira must dovetail into the ultimate concepts for the Salinas National Monument proposal. This same requirement also applies to any State development in this interim period. Subject to these constraints, broad base development concepts and interpretive programs are proposed to enhance the enjoyment and understanding of the visitor.

ARCHEOLOGICAL RESOURCE MANAGEMENT CONCEPTS

Very little archeological work has been done on the three areas, though the bibliography on them is fairly extensive. There has been only minimal testing conducted at Abo and Quarai and only limited excavation at Gran Quivira.

Gran Quivira

The cultural resources at Gran Quivira require preservation and protection. Stabilized ruins include the two mission churches, House Mound 7, 37 rooms of House Mound 11 (House A), and 5 kivas. In addition, several rooms on the periphery of the plaza east of Mound 7 have been excavated and stabilized. All stabilized ruins are included in the interpretive program. The remaining 19 house mounds are unexcavated and require no stabilization. There are also two prehistoric reservoirs and portions of a prehistoric trail that require protection. Plans for further excavations are limited to testing the campground southeast of the campo santo (Mound 21), and excavation of a pithouse for interpretive purposes (see Plate 5).

Abo

Only the church and convento of Abo have been excavated, although test excavations have been done in a few of the Indian ruins. The high-standing walls of Abo mission, partially restored and stabilized, require considerable stabilization. The Indian house mounds will be preserved in their present state, but it will be necessary to excavate and stabilize a few rooms for exhibit purposes. Preservatives will be applied to the pictographs and petroglyphs, if necessary, to prevent deterioration (see Plate 4).

Quarai

The Quarai church and convento, partially restored and stabilized, like Abo, will require considerable stabilization. Only sporadic test excavations have been made in the Indian ruins. It will be necessary to excavate and stabilize a few of the Indian rooms for interpretive purposes (see Plate 3).

Periodic ranger patrols will be made in all three units to prevent vandalism of the ruins and prehistoric rock art.

INTERPRETIVE CONCEPT

Park System Plan

The National Park System should protect and exhibit the best examples of our great national and cultural landmarks. Part One of the National Park System Plan – History (1972) was the result of an update study started in 1969 to recategorize units of the National Park System and place them in an orderly framework to best protect and exhibit these landmarks. Any serious gaps or inadequacies could then be identified and measures taken to improve the situation.

Gran Quivira was placed in category 2a3:

Theme 2. European Exploration and Settlement
Subtheme a. Spanish Exploration and Settlement
Facet 3. Southwest.

This category is well represented in the park system and may be over-represented in the Southwest. Additionally, Gran Quivira does not fit particularly well into this category. As an example, it is not felt that the padres considered themselves explorers or that they brought the Indians together in this pueblo that was occupied continuously for over 300 years prior to the arrival of the Spaniards. Gran Quivira, Abo, and Quarai represent a prime example of change in prehistoric and historic times. The cultural clash and turmoil brought on by change should be emphasized in the interpretive program and recognized in the Park System plan.

Category 1c2a is a truer reflection of the position of Gran Quivira in the System:

Theme 1. The Original Inhabitants.
Subtheme c. Indian Meets European
Facet 2. Changes in Native Life due to Contact.
a. Changes in Social and Political Organization.

Not only does Gran Quivira fit the 2a facet, but it can represent equally well the other four facets under the prime subtheme 1c. At present, there are no areas in the National Park System that fill this subtheme. Gran Quivira and the proposed additions of Abo and Quarai all fulfill the recommendations required in the Park System plan: "illustrating changes in native life due to contact with the European."

In addition, the absence of any Park Service site in the 1c theme can be filled with minor acquisition costs by shifting Gran Quivira and its proposed additions from 2a to 1c.

Because the interpretive thrust is directed toward contact and change, and the above reasons are valid, this master plan proposes a change of themes from 2a3 to 1c2a.

Themes

The interpretive program will set the direction for development and, therefore, must be considered first. Each area has its own story, as well as being part of the overall story.

The present interpretive program deals with Spanish exploration and settlement of this part of the Southwest and with the Franciscan mission churches constructed at Gran Quivira. The program has developed over the past 50 years with little or no guidelines. It is, therefore, proposed that individual themes be

designated for each pueblo-mission complex with complete onsite interpretation in addition to one centrally located facility for overall interpretation and information (see interpretive prospectus, later in this report).

Under the enlarged monument proposal, interpretation will center around the religious, political, and cultural aspects of the Indian-Spaniard encounter in the Salinas Province.

Visitor knowledge of Southwestern archeology ranges from the novice to the "buff," and provision will be made for in-depth interpretation.

The administration facility in Mountainair will include a visitor center capable of providing two types of the Salinas story: a relatively straightforward narrative of what took place in the province; and the more abstract idea of cultural contact. This program will be designed to whet the visitor's appetite with interest and occasionaly flashes of insight, and to lend a breath of life and reality to persons and events of the invisible past.

For clarity, each detached area will emphasize that part of the story most obviously found there. At Gran Quivira, the theme is that of cultural change — Indian life at the time of contact with the Europeans (theme 1c1) and Native migrations and warfare due to contact (theme 1c2b).

At Abo, the theme should focus on the mutual changes brought about by cultural contact (themes 1c2, 1c3), and the day-to-day work and life of the local Pueblo Indians.

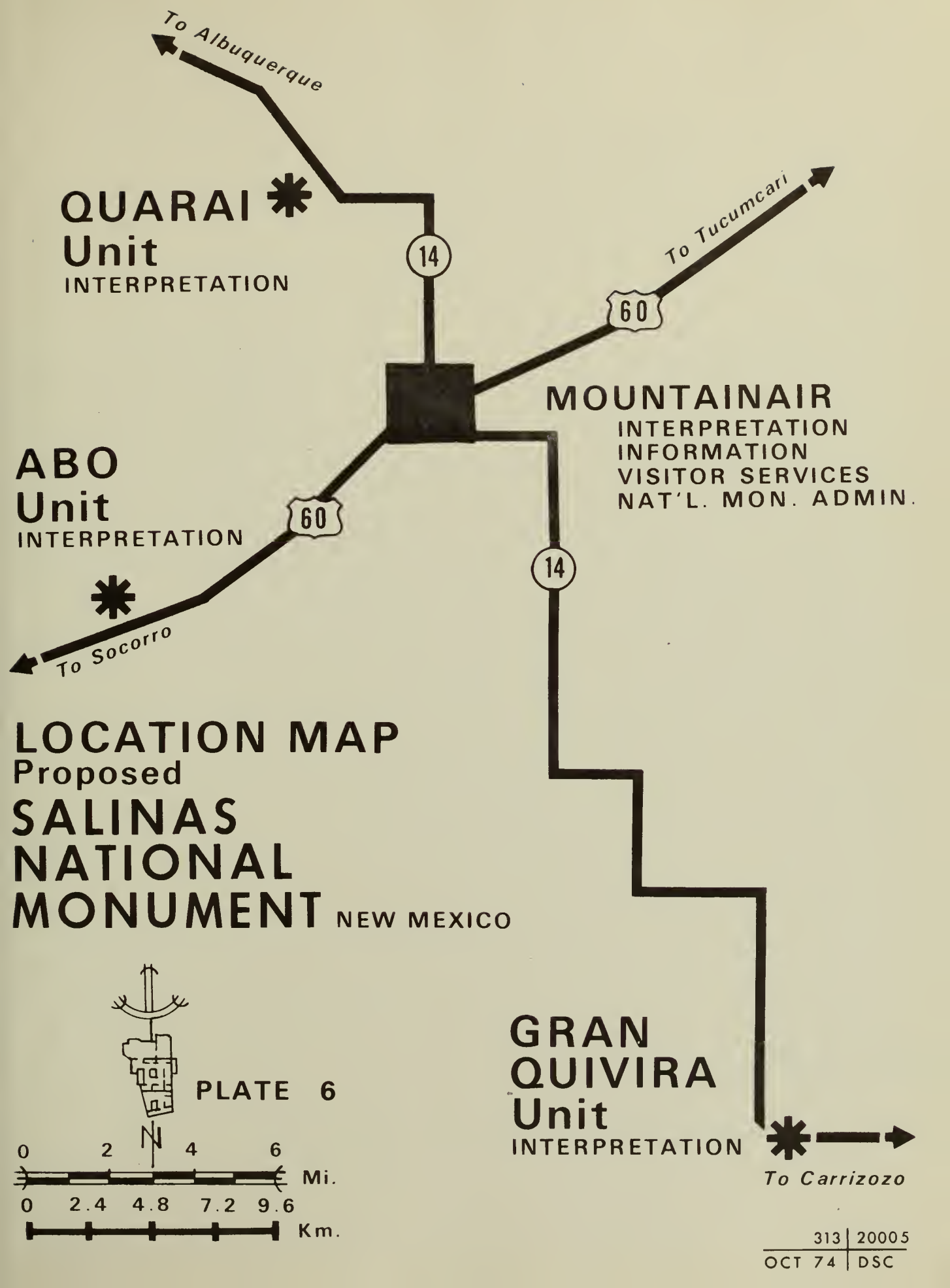
At Quarai, the theme will focus on the Catholic Church and the Holy Inquisition as an arm of European culture, and Christianity versus the native religion. Themes are consistent with those presented in Part One of the National Park System Plan — History (1972).

Carrying Capacities

Because present visitor patterns do not indicate a need for setting carrying capacities, enactment of the proposal may well increase visitation to the point that trail use will have to be limited. Such possibilities are not foreseen in the near future, but studies, observations, and research should be started as soon as the management concept of a Mountainair headquarters is operational.

There will be points along the ruins trail that, because of space requirements for group viewing and guide interpreting, place limits on capacities. The smallest trail stop now envisioned would limit groups to approximately 15 persons.

The visitors spend from 45 to 60 minutes on the present self-guided trail. The new trail at Gran Quivira and the proposed trails at Abo and Quarai will require approximately 75 to 90 minutes for a self-guided tour.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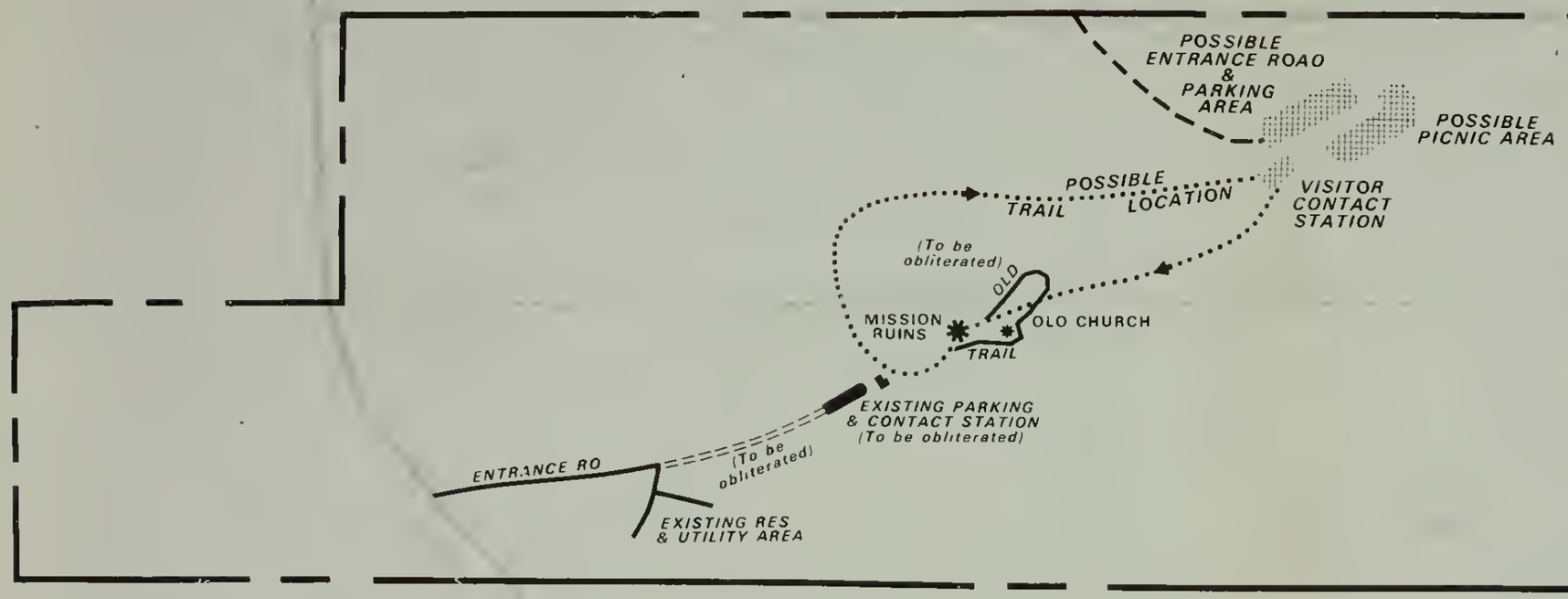

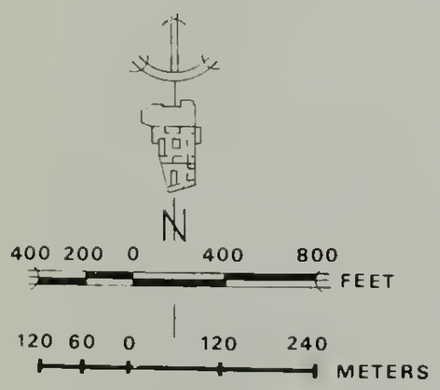

CONTOUR INTERVAL 20 FEET (6.1 METERS)

LEGEND

- BOUNDARY OF EXISTING GRAN QUIVIRA UNIT 610.94 ACRES (247 HECTARES)
- POSSIBLE ENTRANCE ROAD
- POSSIBLE TRAIL LOCATION
- POSSIBLE DEVELOPMENT AREAS

GRAN QUIVIRA UNIT

PROPOSED SALINAS NATIONAL MONUMENT

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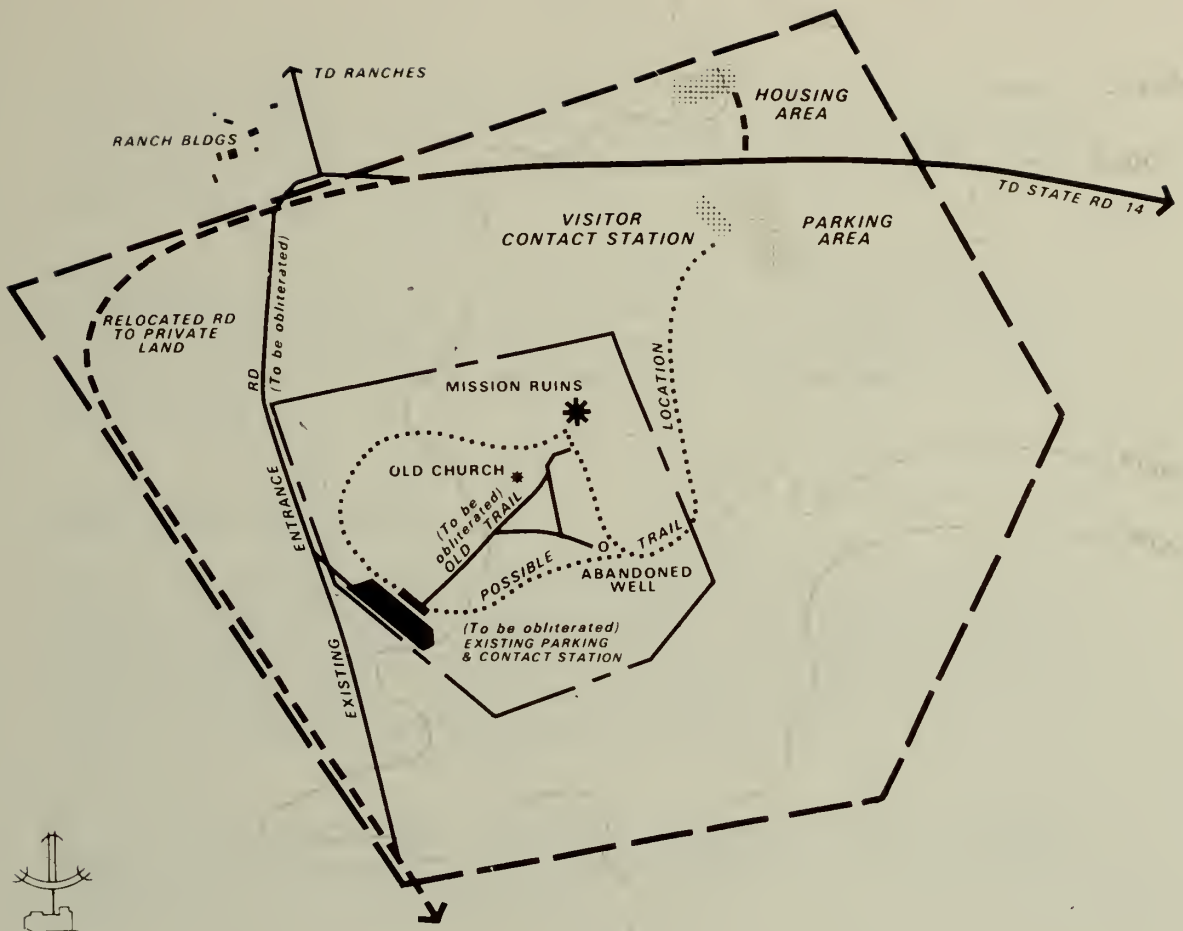
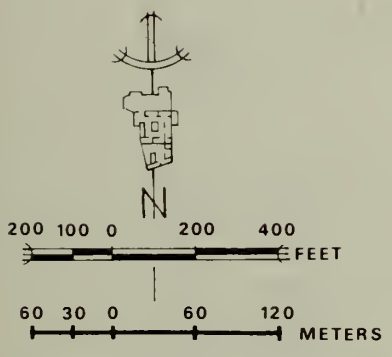
PLATE 7





CONTOUR INTERVAL 40 FEET (12.1 METERS)

LEGEND

- BOUNDARY OF EXISTING STATE MONUMENT, 15 ACRES (6 HECTARES)
- BOUNDARY OF PROPOSED QUARAI UNIT, 76.5 –+ ACRES (31–+ HECTARES)
- RELOCATED ROAD TO PRIVATE LAND
- POSSIBLE TRAIL LOCATION
- POSSIBLE DEVELOPMENT AREAS

QUARAI UNIT

PROPOSED SALINAS NATIONAL MONUMENT

313	20007
OCT 74	DSC

PLATE 8

It is anticipated that the interpretive trail stops will require no more than 3 minutes for an adequate story. With 1 minute between groups, the capacity of the trail would be 225 visitors per hour. Thus a parking capacity of approximately 100 cars per area would be required.

This capacity is over four times the existing peak day at Gran Quivira and far exceeds that envisioned for the units in the near future. A capacity of 100 people per hour, or 1,000 persons per 10-hour summer-day, would double existing peak use and should be the set capacity until results from the aforementioned research can be evaluated.

DEVELOPMENT CONCEPTS

With the area themes developed, the next conceptual part of the plan to be considered is contacting and informing the potential visitor about the units and the Salinas Province. All three areas are small with limited land resources for large scale development. Each is located on or near different highways leading into Mountainair (Plate 6), and each tells a part of the whole story.

Mountainair

Because it is impossible to visit more than one of the sites without going through Mountainair, it is proposed that a facility be constructed, purchased, or leased within the town as a visitor-contact point.

The contact facility should be as near to the highway intersection as possible to be easily visible to the passing traveler. The building will house the administrative offices and some maintenance functions, as well as information and visitor services. Adequate interpretive space will be provided to give the visitor an overall picture of the Salinas Province and the interrelationship of the three areas. This will serve not only for the ultimate three-unit park, but will also increase the visitors' understanding of Gran Quivira in the interim.

During off-season periods, or until individual visitor-contact stations are operational, this contact facility will be capable of expanding its presentations to include those of the non-operating units. Although this interim form of management will present some problems to the daily operations of Gran Quivira because of distance, development programming and visitor-contact services will be enhanced. Because the monument presently depends on Mountainair for the majority of its support services and supplies, there should be a noticeable decrease in service charges and delivery times.

The local Forest Service and Soil Conservation Service offices have expressed interest for office space in such a facility. Every effort should be made to consolidate all three agency offices in the same centrally located facility. A strong program on land and natural resources preservation and use, backed by all three

agencies, could then be disseminated from one central contact point. The consolidation would also complement visitor information concerning recreation and other Federal programs in the Mountainair area.

Gran Quivira

The present visitor facilities at Gran Quivira are inadequate and an intrusion on the historic scene (see Plate 7). Because they are so close to the ruins and constructed of the same material, people sometimes assume they are historic structures reconstructed for visitor use. In order to relieve this confusion and restore the integrity of the scene, it is proposed that the existing visitor center, administration building, picnic area, parking lot, and road be obliterated and the abandoned area restored to a natural condition. A new visitor-contact facility with access road and parking could then be located in an area to the northeast of the ruins (see Plate 7). Because the administration and maintenance offices are to be located in town, the space requirements for the new interpretive facility will be substantially reduced. The facility will be adequate to handle the visitor limits set by proposed carrying capacity studies. A low profile structure, possibly built into the hillside, could be set in the vegetation and screened from the ruins. Adequate restroom facilities and space for complete theme interpretation of the ruins will be provided.

A new interpretive trail will be constructed through the ruins in the sequence of occupation and acculturation. This is not possible from the present visitor center location without a confusion of crisscrossing and backtracking trails.

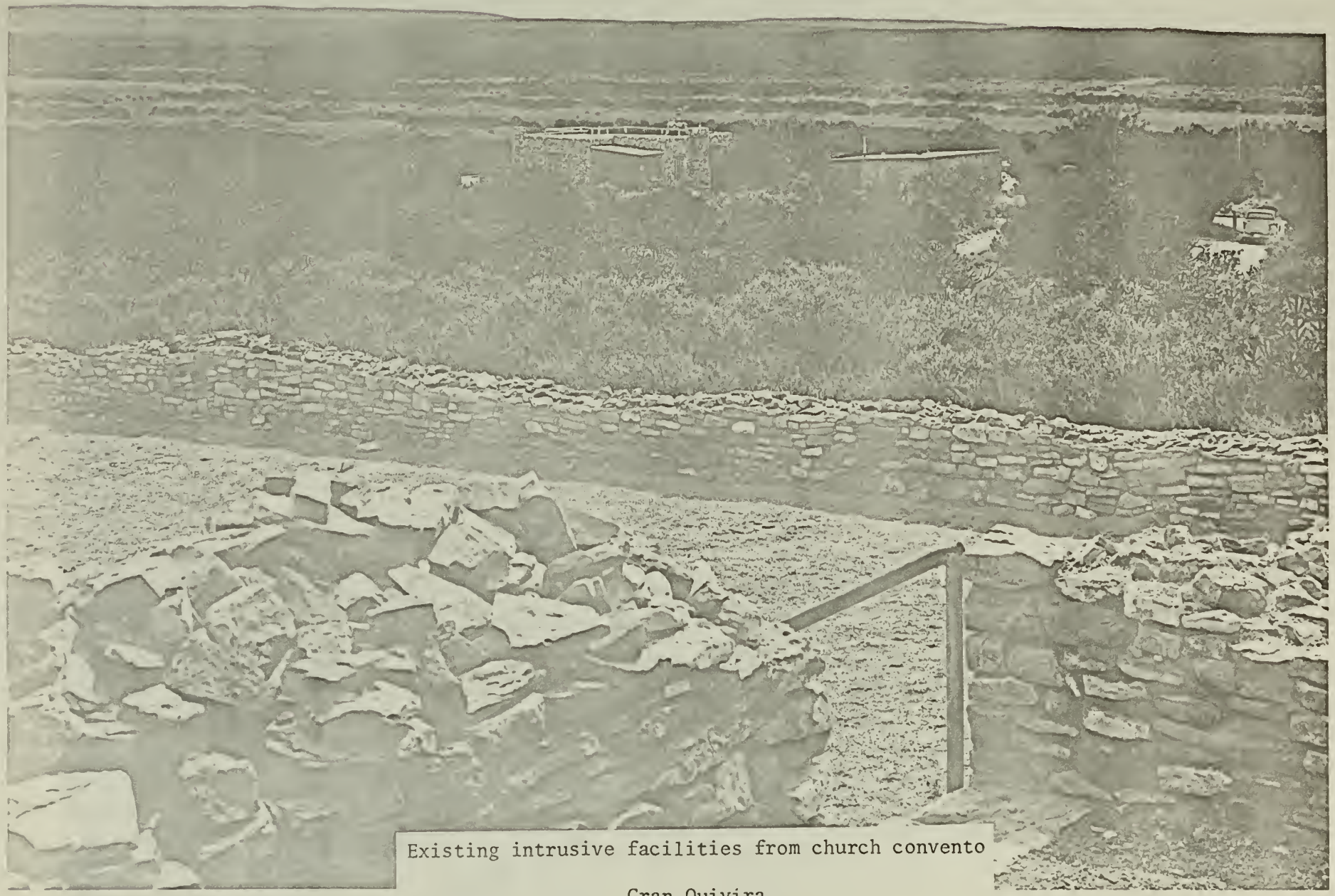
Space is also available at the proposed site for a new, small-capacity picnic area away from the ruins area and the visitors' circulation pattern. Housing pressures at the monument will be eased by moving offices to town. Three trailers now used for temporary quarters and several small maintenance structures will be removed from the monument. It is recommended that two three-bedroom residences and one shop facility be retained to house resource protection personnel and store daily equipment and tools at Gran Quivira. Equipment needed only periodically will be housed in town at the main facility.

A sound research-based resource management program will be implemented to stop wind erosion and "blowouts" that are now denuding areas on the south slope of the hill.

Quarai

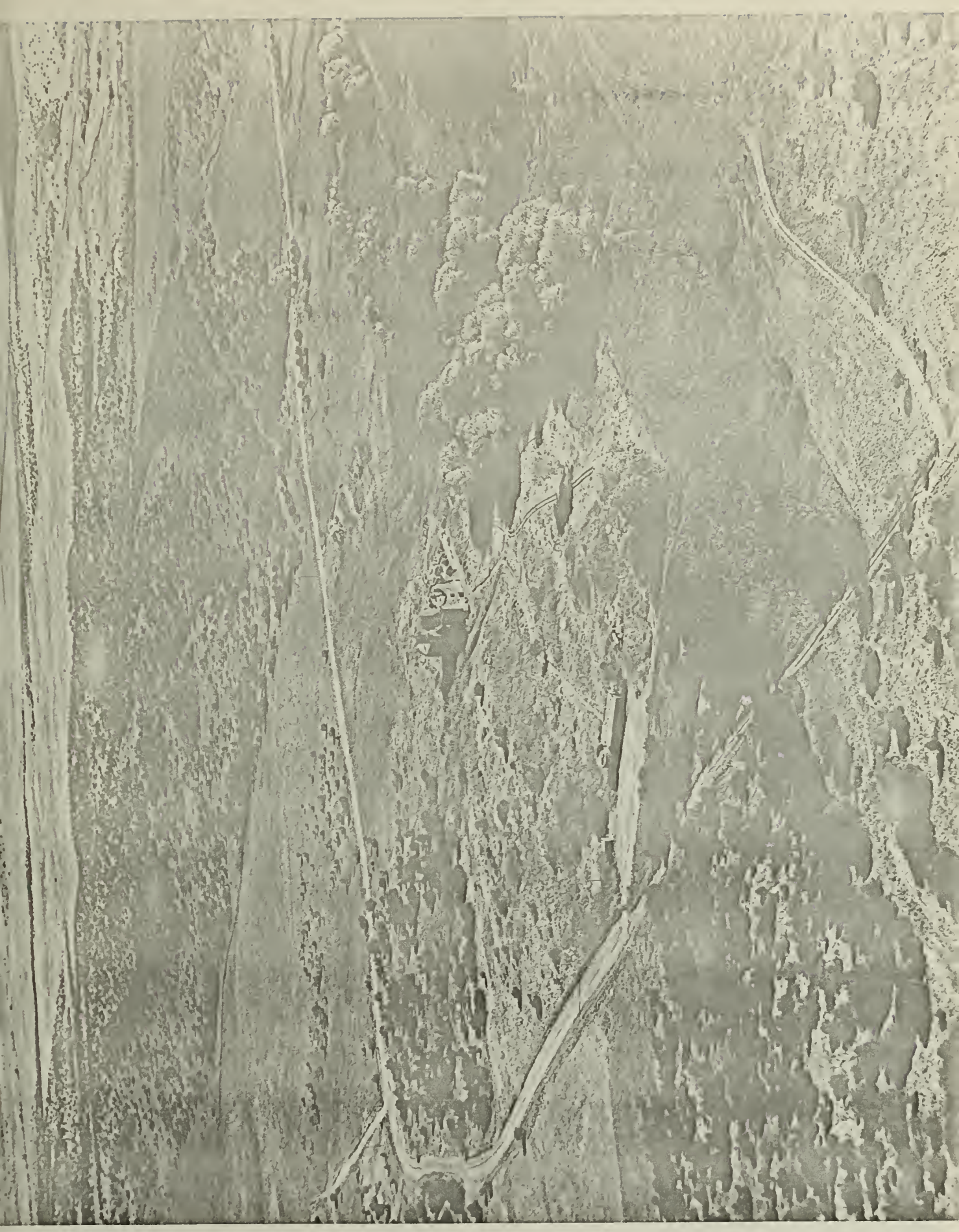
The present State monument, approximately 15 acres (6 ha) in size, lies 8 miles (13 km) northwest of Mountainair in a gently rolling, wooded valley near the eastern base of the Manzano Mountains.

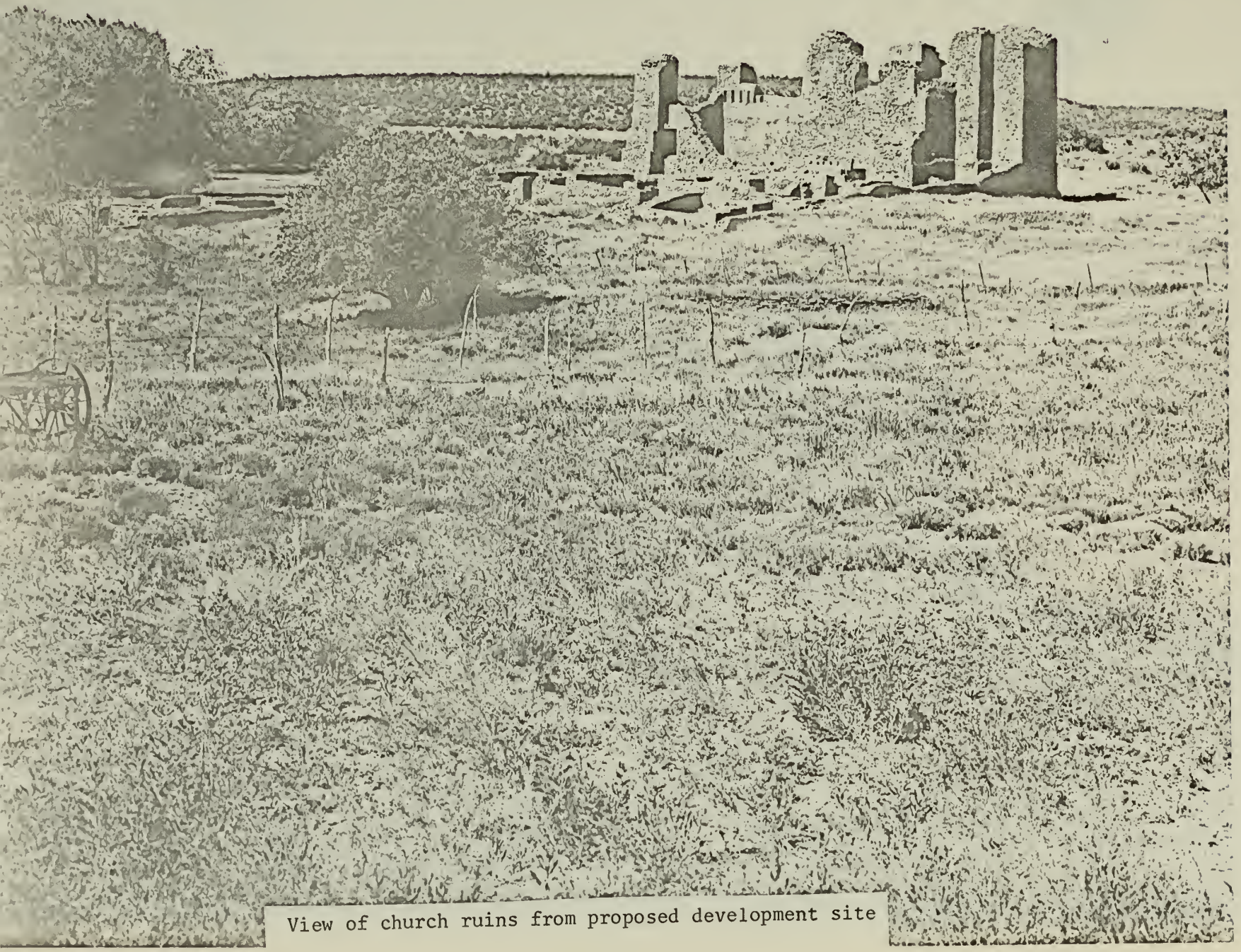
It is proposed that this area be accepted from the State of New Mexico by donation as a unit of the proposed Salinas National Monument, and that an additional 61.5 acres (25 ha) be acquired around the monument to preserve the



Existing intrusive facilities from church convento

Gran Quivira





View of church ruins from proposed development site

Quarai

integrity of the scene (see Plate 8). Legislation will include the land in the boundary proposal with acquisition scheduled as soon as possible.

Existing visitor facilities and the attached residence, while presently adequate, are located directly atop and adjacent to the ruins of a pueblo mound. The facility will be relocated as soon as practical, and the site backfilled.

The proposed new visitor-oriented development location (see Plate 8) is northeast of the ruins behind a small rise that is away from the historical scene. Here again, as at Gran Quivira, the new facility will be modest with a low profile and comfort station facilities and interpretive space to adequately relate the designated theme of the area.

At the time of relocation, the present single-family residence will be replaced with a duplex or similar capacity structure to afford more continuous resource protection.

Present flooding and subsequent sedimentation originate on cultivated lands west of the existing monument. A program of revegetation and erosion control will be implemented as soon as possible after acquisition of the additional lands.

Abo

Abo, an approximately 21-acre (8 ha) State monument, is approximately 9 miles (14.5 km) west of Mountainair. It is located in an open, grassy valley on the edge of Abo Wash.

This third unit for inclusion in the Salinas Monument would also be accepted from the State by donation. At present, five ranch complexes of houses, ranch structures, windmills, vehicles, and domestic livestock are crowded around the monument boundaries. This visual intrusion makes the savoring of the area's historical atmosphere extremely elusive. Therefore, it is proposed that approximately an additional 420 acres (127 ha) be acquired to restore the integrity of the historic scene and to encompass additional ruins, petroglyphs, and pictographs in the area associated with Abo Pueblo, as well as to provide land for development (see Plate 9). The present petroglyph and pictograph sites will provide historic background and alternate trail locations and interpretive programs.

As these lands are acquired, the structures will be removed and the area revegetated. There are presently no visitor facilities at Abo. A local rancher serves as custodian and provides limited protection by his presence in the area.

It is proposed that a modest visitor facility be situated southeast of the ruins on a low saddle overlooking the valley (see Plate 9). This location provides easy access for development and proper trail sequence and does not intrude on the historic scene.

The proposed development area has been computer checked by infrared aerial photography and found to be clear of surface archeological sites.

Here again, the development will be similar to that proposed at Gran Quivira and Quarai – a small, low-profile structure with interpretive facilities to tell the theme story of Abo, an access road, and parking. The sizes of the facilities will be determined by carrying-capacity studies.

Two residences or a duplex will be needed for resource protection in the area. The site will be thoroughly studied before a decision is made regarding the location.

Erosion control, revegetation of valley slopes, and bank stabilization of Abo Wash and its tributary through the ruin area must be initiated as soon as possible.

THE CEDING OF QUARAI AND ABO STATE MONUMENTS TO THE NATIONAL PARK SERVICE

The concept of the Salinas National Monument proposal is based on the assumed donation of Abo and Quarai State Monuments by the State of New Mexico to the National Park Service. This proposal has been discussed with New Mexico State officials and the attached letter from Governor King (see appendix) indicates their interest and contingent approval. Subsequently, the State Legislature passed a bill that provides for the ceding of Abo and Quarai to the National Park Service conditioned on the acceptance of this master plan/development concept plan by the State. The bill was signed by Governor King on February 12, 1974.

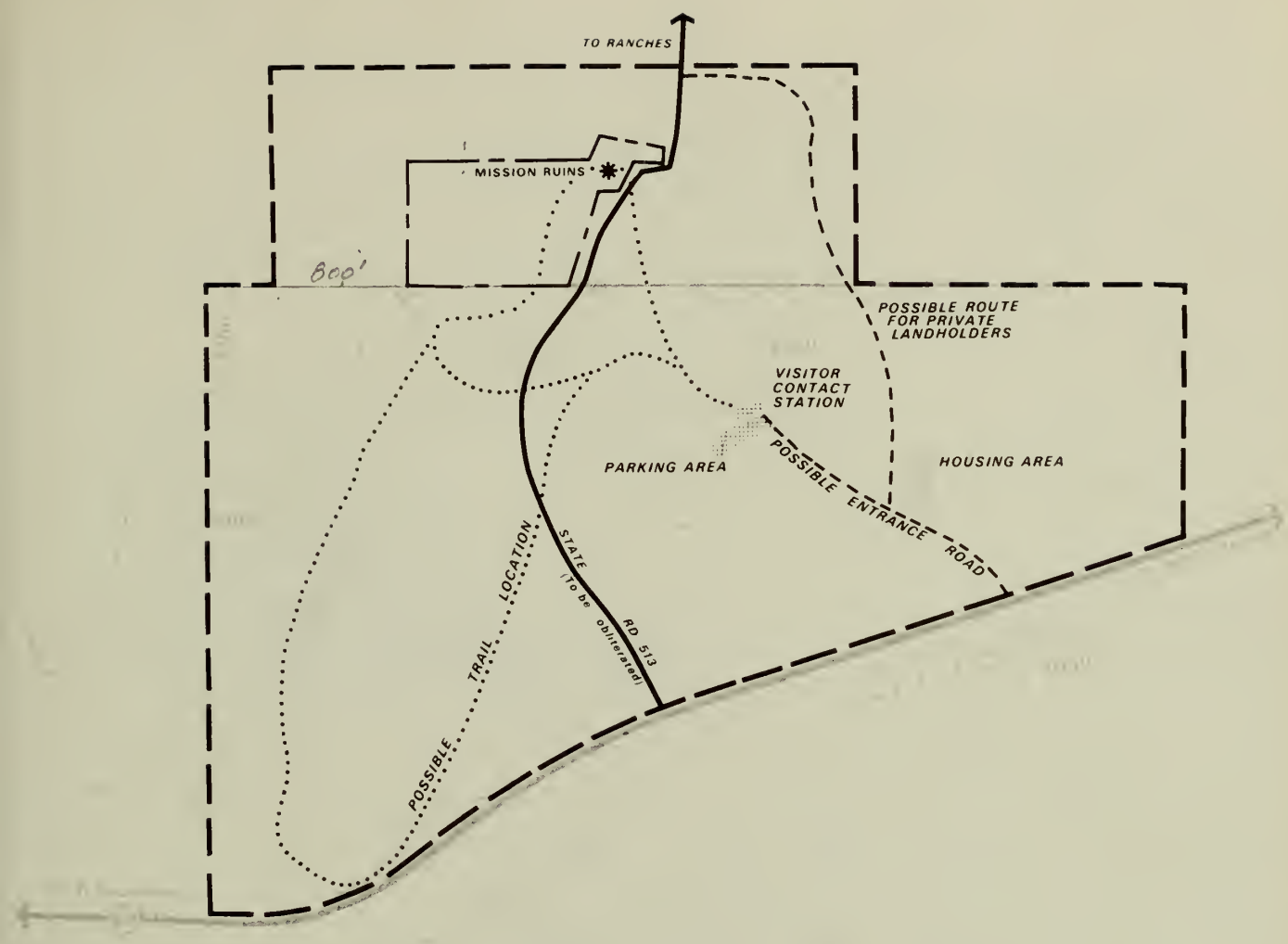
LAND CLASSIFICATION

The archeological resources located to date in the three areas are scattered throughout the units. These resources qualify the units for a Class VI (historic and cultural) designation.

The development areas previously discussed will be designated Class II (general outdoor recreation) as shown on the attached Plates 10, 11, and 12.

There are no Class I (high density recreation areas), Class III (natural environment areas), Class IV (outstanding natural areas), or Class V (primitive areas) lands within the proposed monument units.

The land classification system used in the National Park Service is similar to that proposed by the Outdoor Recreation Resources Review Commission and prescribed by the Bureau of Outdoor Recreation for application to Federal lands.



LEGEND

- BOUNDARY OF EXISTING STATE MONUMENT, 21 45 ACRES (8–+ HECTARES)
- BOUNDARY OF PROPOSED ABO UNIT, 420–+ ACRES (127–+ HECTARES)
- POSSIBLE ENTRANCE ROAD & ROUTE FOR PRIVATE LANDHOLDERS
- POSSIBLE TRAIL LOCATION
- POSSIBLE DEVELOPMENT AREAS

N

400 200 0 400 800 FEET

120 60 0 120 240 METERS

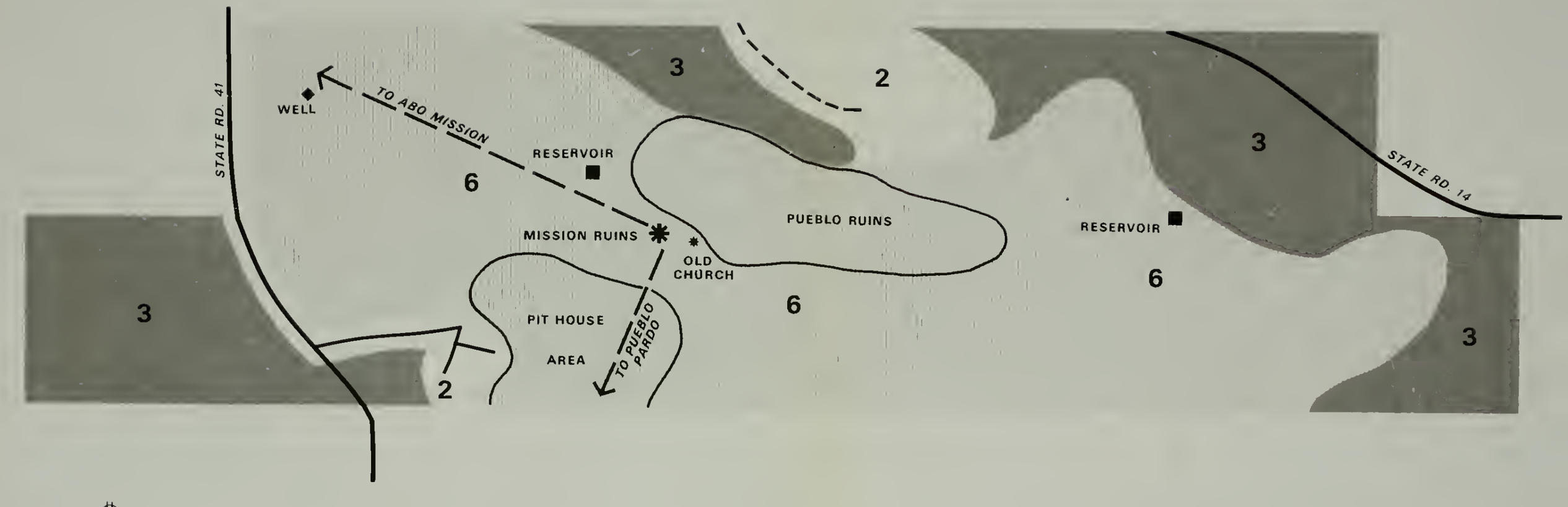
CONTOUR INTERVAL 20 FEET (6 1 METERS)

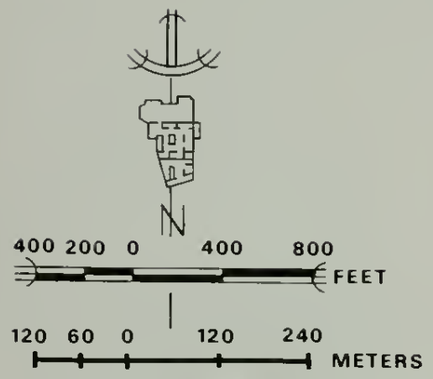
ABO UNIT

PROPOSED SALINAS NATIONAL MONUMENT

313	20008
OCT 74	DSC

PLATE 9





CLASS 2 GENERAL OUTDOOR RECREATION

CLASS 3 NATURAL ENVIRONMENT

CLASS 6 HISTORIC & CULTURAL SITES

POSSIBLE ENTRANCE ROAD

EXISTING MINOR ROAD

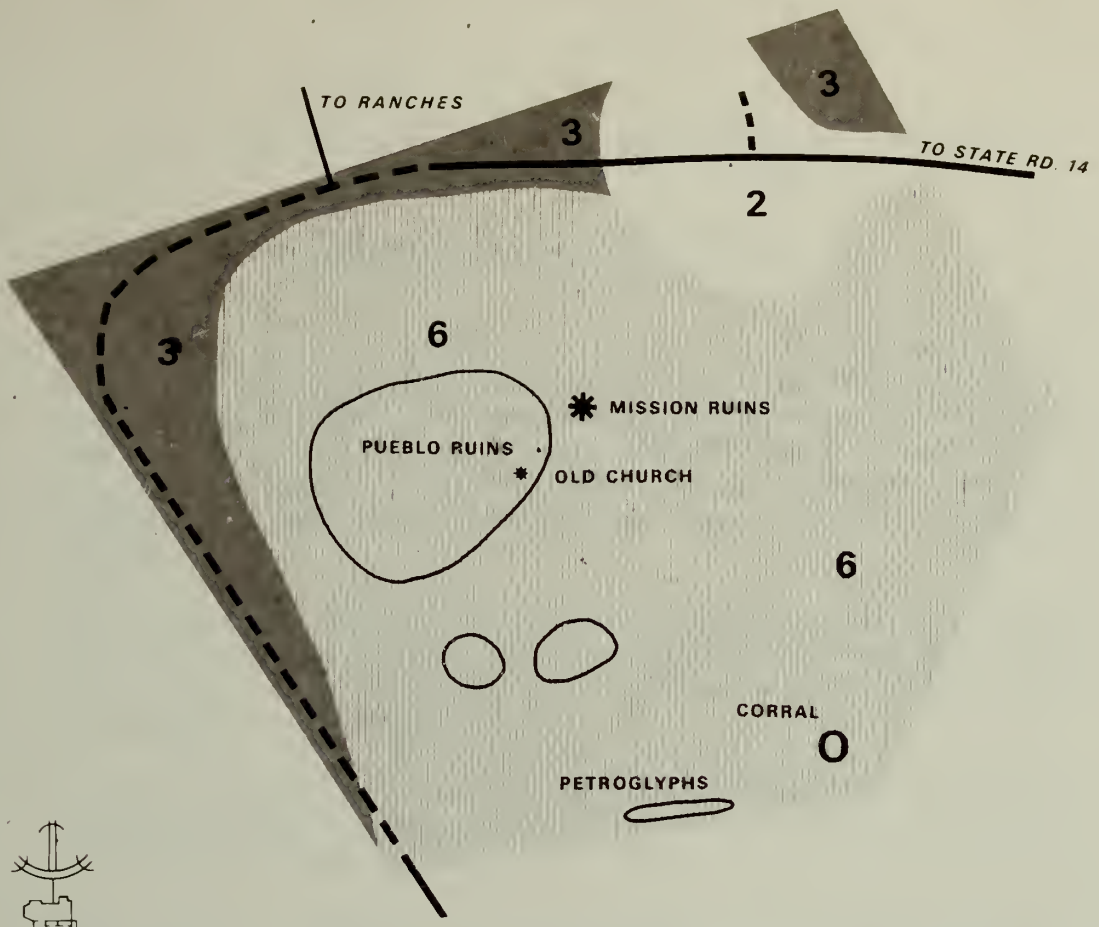
EXISTING PARK ROAD

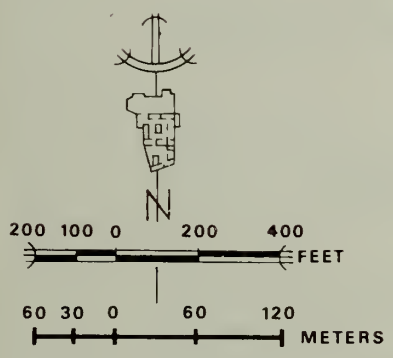
LAND CLASSIFICATION

GRAN QUIVIRA UNIT

313 | 20009
OCT 74 | DSC

PLATE 10





EXISTING ROAD

RELOCATED ROAD TO PRIVATE LAND

ROAD TO RANCHES

CLASS 2 GENERAL OUTDOOR RECREATION

CLASS 3 NATURAL ENVIRONMENT

CLASS 6 HISTORIC & CULTURAL SITES

LAND CLASSIFICATION

QUARAI UNIT

PLATE 11

313	20010
OCT 74	DSC

ALTERNATIVES TO THE PROPOSED ACTION

LEGISLATIVE ALTERNATIVES TO THE PROPOSED ACTION

No Action

The no action option would essentially result in the National Park Service's continuing to operate an ineffective and substandard archeological monument. The existing visitor-information facilities are inadequate, and museum or display space is virtually non-existent. Without improved visitor-use facilities, the historical importance of Gran Quivira National Monument and its interrelationships with nearby State monuments cannot be readily grasped by most visitors.

The existing administrative building and information station at Gran Quivira are near the top of the hill and very close to the ruins. This location on the historical scene leads some visitors to believe the structures are part of the ruins that were reconstructed for National Park Service use.

The present interpretive trail does not follow a time sequence story of the ruins and confuses visitors about the time and the part each ruin depicts in the ultimate abandonment of the hill.

With visitation increasing more than 15 percent per year, it is impossible to assume the existing facilities can continue to function as they are. Therefore, the "no action" alternative has little merit.

Full Development at Gran Quivira

Expansion of visitor facilities in their existing location would not meet the need to interpret the interrelationships of the three archeological sites and adequately tell the Salinas Province story to regional visitors.

Obliteration of existing facilities and relocation to the north side of the ruins would remove these structures from the historic scene. This would allow for proper trail routing and thus reduce visitor confusion about the historic story being told at Gran Quivira.

However, the resulting consolidated development would be larger, require more personnel, increase water demands and subsequent sewage disposal problems, and create a greater impact on Gran Quivira's limited development area. It also does not solve one of the major problems discussed in this plan – the presentation of the interrelationships of the three sites.

This alternative, therefore, does not satisfy the desire to provide a complete interpretive program, reduce development impact on the monument, and find a better way to contact and inform the visitor about Gran Quivira and the Salinas Province.

A Joint Federal-State Operation

A third alternative is to operate the three sites jointly under Federal and State management. The management plan for this alternative would be similar to that of the proposal – one centrally located facility in Mountainair with three smaller facilities at each of the three sites. Congressional legislation would set up a joint management entity.

A joint operation would be difficult to implement because of different funding mechanisms of the Federal Government and State of New Mexico. A future lack of funding by either agency could delay development and affect annual operations.

Possible administrative and accounting problems could develop with dual funding. Personnel problems could develop because of different hiring practices, career status, and requirements. Also, problems of allocation of responsibility for office and maintenance equipment could result.

If these disadvantages could be overcome, this alternative might be viable. However, the State of New Mexico has not indicated that it is interested in any such arrangement.

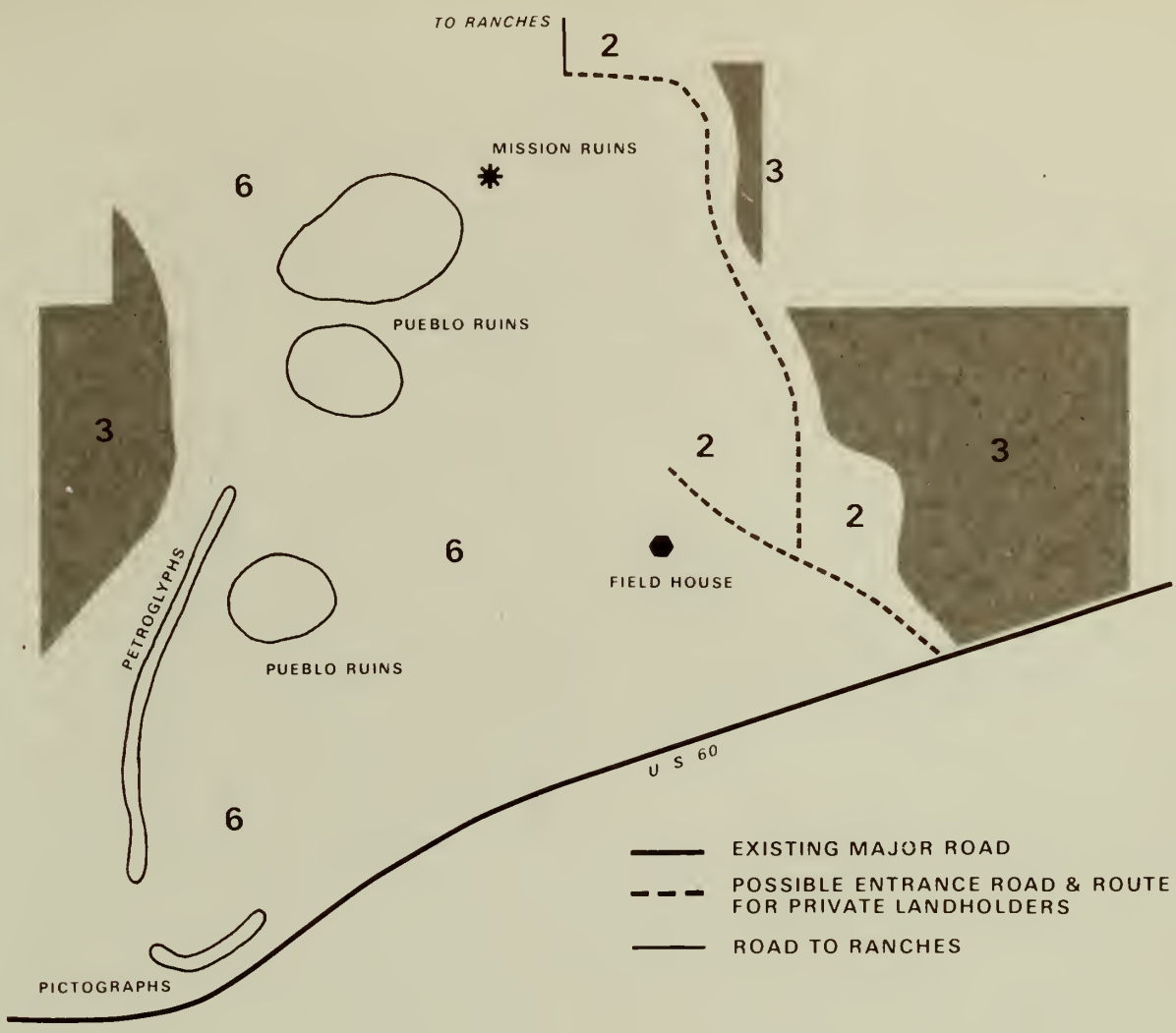
Transfer Gran Quivira to the State of New Mexico

All three sites could be operated and maintained by the State of New Mexico. Operation of the three areas by the same agency would result in a better presentation of the interpretive story of the Salinas Province and would reduce duplication of effort on total administration and operation costs and on interpretation.

It has been argued that the story of the Salinas Province is a story of regional rather than national significance. If this is so, it would be reasonable for the regional authority (the State of New Mexico) to develop and maintain these facilities. However, the State of New Mexico has limited funding and personnel, and there is no evidence that the situation will change in the near future. The feasibility of this alternative, therefore, depends entirely on the willingness of the State of New Mexico to maintain control in the Abo and Quarai sites and assume responsibility for jurisdiction of the Gran Quivira site. Although this is a viable alternative, the State has shown no interest in assuming jurisdiction of the Gran Quivira site. The Governor of New Mexico has indicated that, with contingencies, he would endorse a proposal for the donation of Abo and Quarai to the National Park Service.

Federal Management of the Three Sites Without Additional Land Acquisition

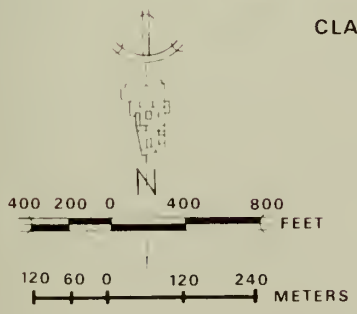
The management plan for this alternative would be similar to that of the proposal outlined in the plan section of this document, except for the expansion of the boundaries of Abo and Quarai.



CLASS 2 GENERAL OUTDOOR RECREATION

CLASS 3 NATURAL ENVIRONMENT

CLASS 6 HISTORIC & CULTURAL SITES



LAND CLASSIFICATION

ABO UNIT

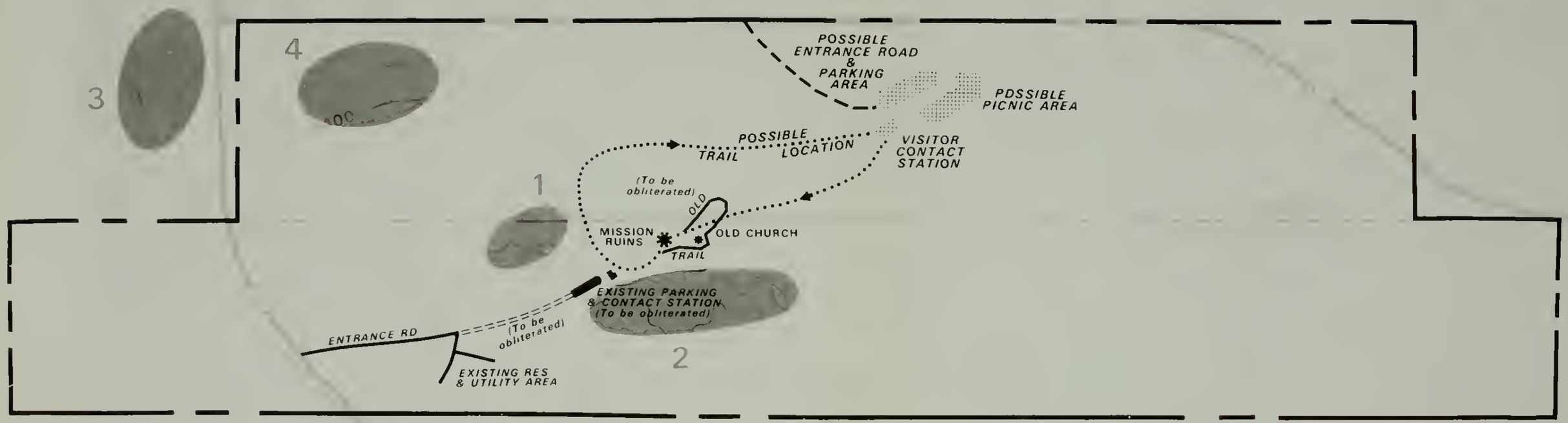
313	20011
OCT 74	DSC

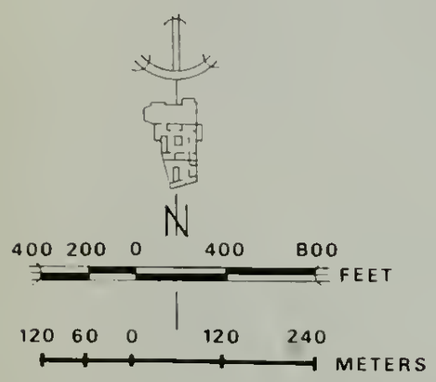
PLATE 12

400 2

120 6

CONT





CONTOUR INTERVAL 20 FEET (6 1 METERS)

LEGEND

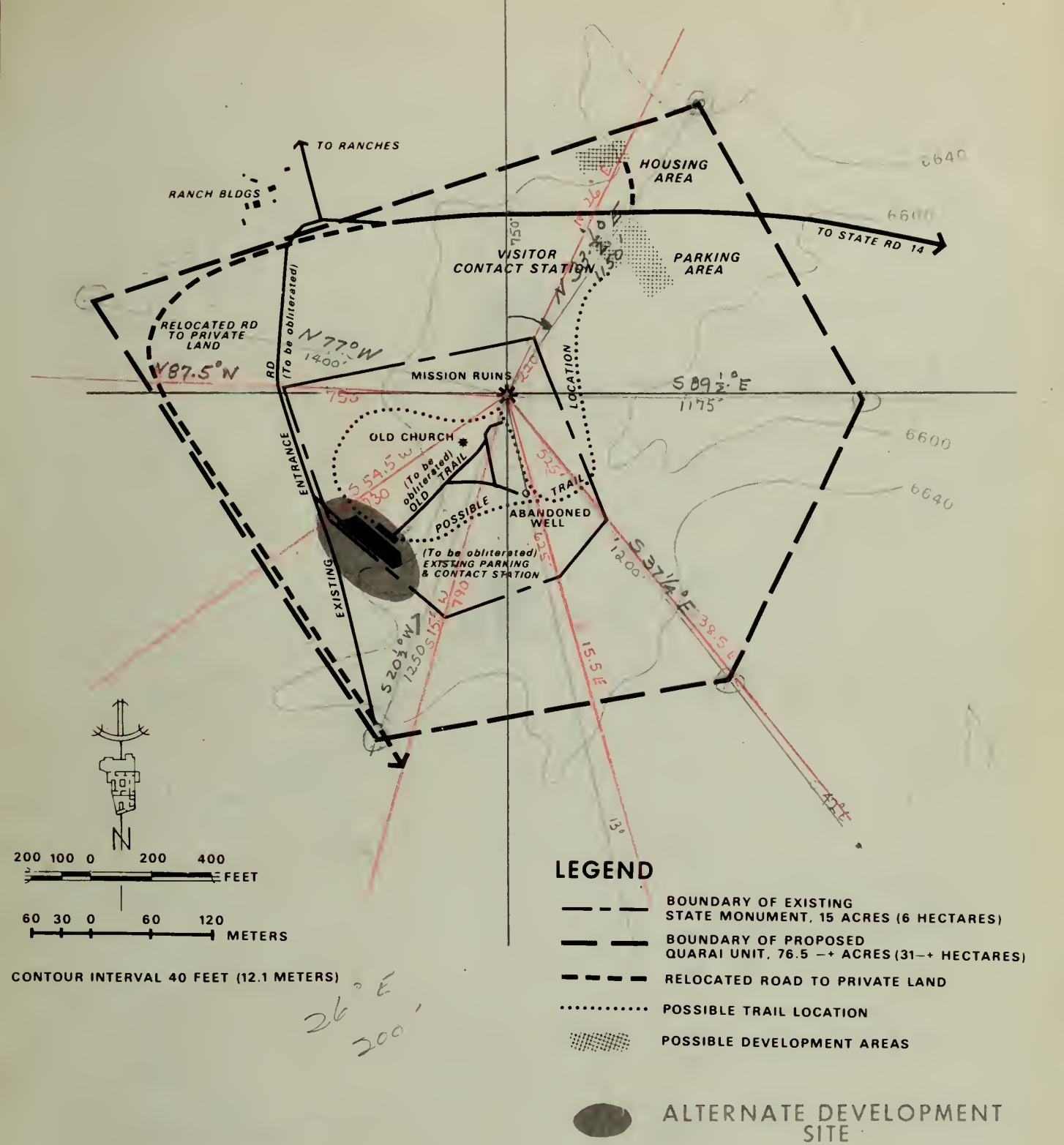
- BOUNDARY OF EXISTING GRAN QUIVIRA UNIT 610 94 ACRES (247 HECTARES)
- POSSIBLE ENTRANCE ROAD
- POSSIBLE TRAIL LOCATION
- POSSIBLE DEVELOPMENT AREAS
- ALTERNATE DEVELOPMENT SITE

GRAN QUIVIRA UNIT

PROPOSED SALINAS NATIONAL MONUMENT

313	20012
OCT 74	DSC

PLATE 13

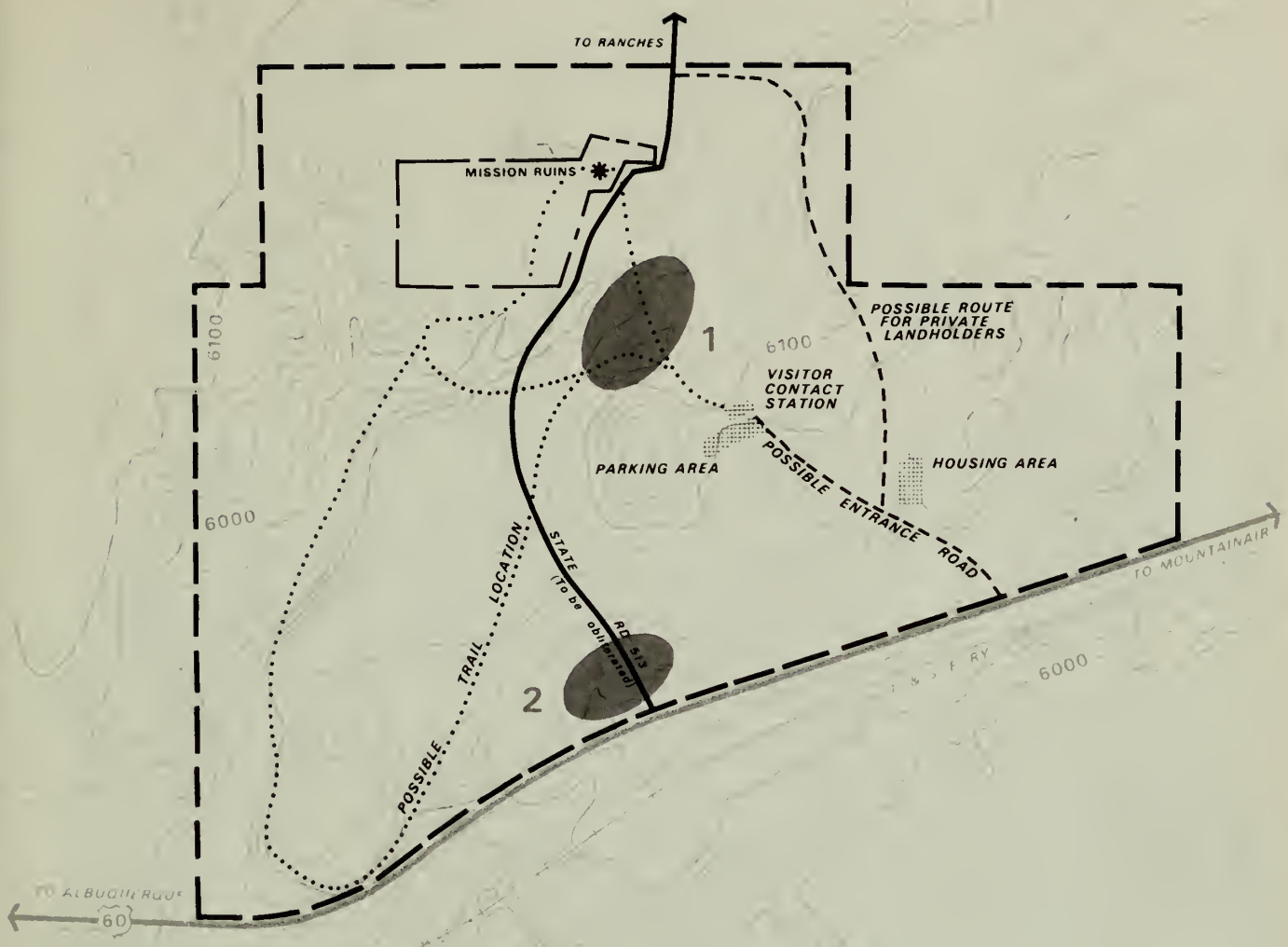


QUARAI UNIT

PROPOSED SALINAS NATIONAL MONUMENT

313 | 20013
OCT 74 | DSC

PLATE 14



LEGEND

- BOUNDARY OF EXISTING STATE MONUMENT, 21.45 ACRES (8—+ HECTARES)
- BOUNDARY OF PROPOSED ABO UNIT, 420—+ ACRES (127—+ HECTARES)
- POSSIBLE ENTRANCE ROAD & ROUTE FOR PRIVATE LANDHOLDERS
- POSSIBLE TRAIL LOCATION
- POSSIBLE DEVELOPMENT AREAS
- ALTERNATE DEVELOPMENT SITE

N

400 200 0 400 800 FEET

120 60 0 120 240 METERS

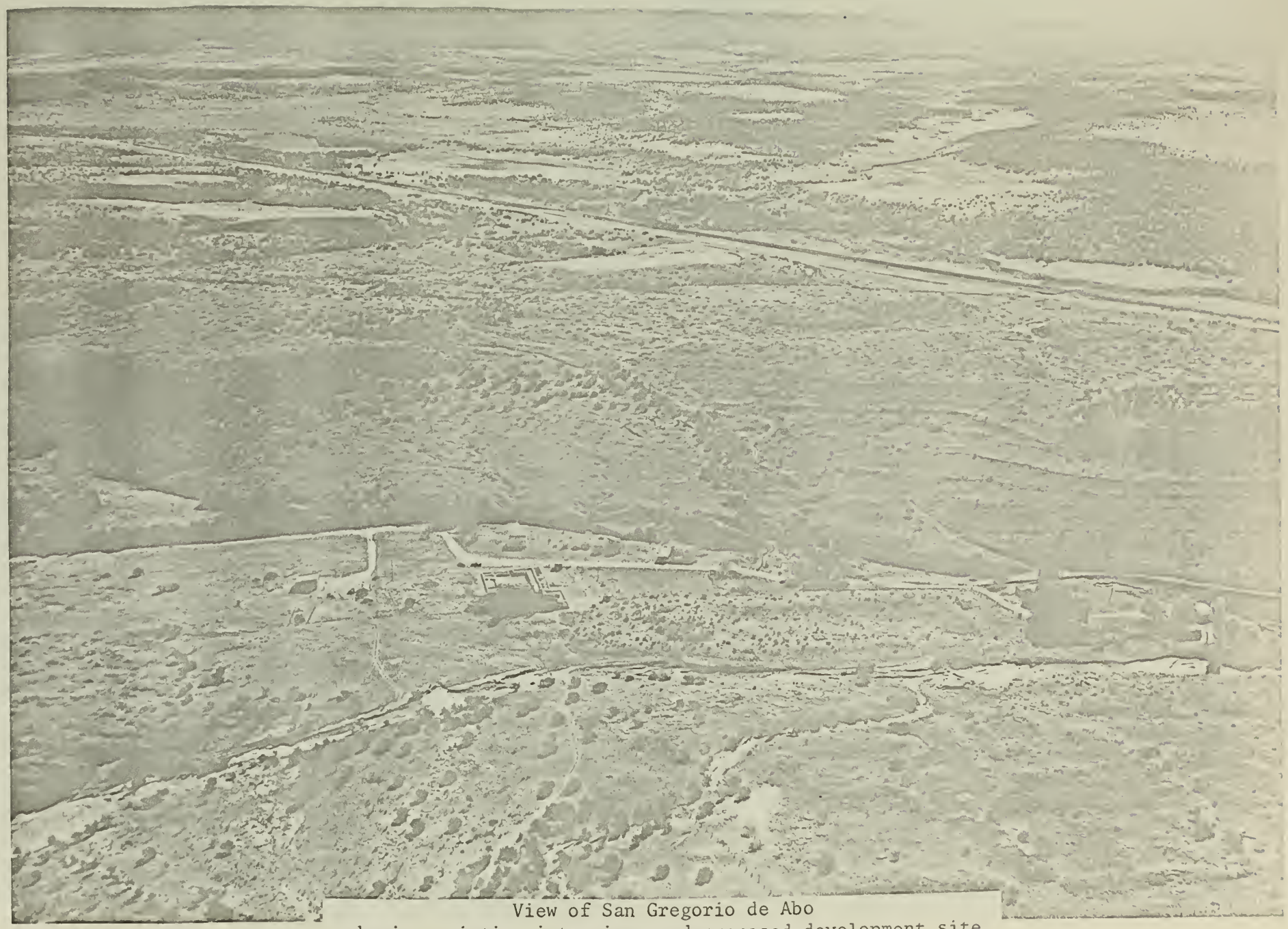
CONTOUR INTERVAL 20 FEET (6.1 METERS)

ABO UNIT

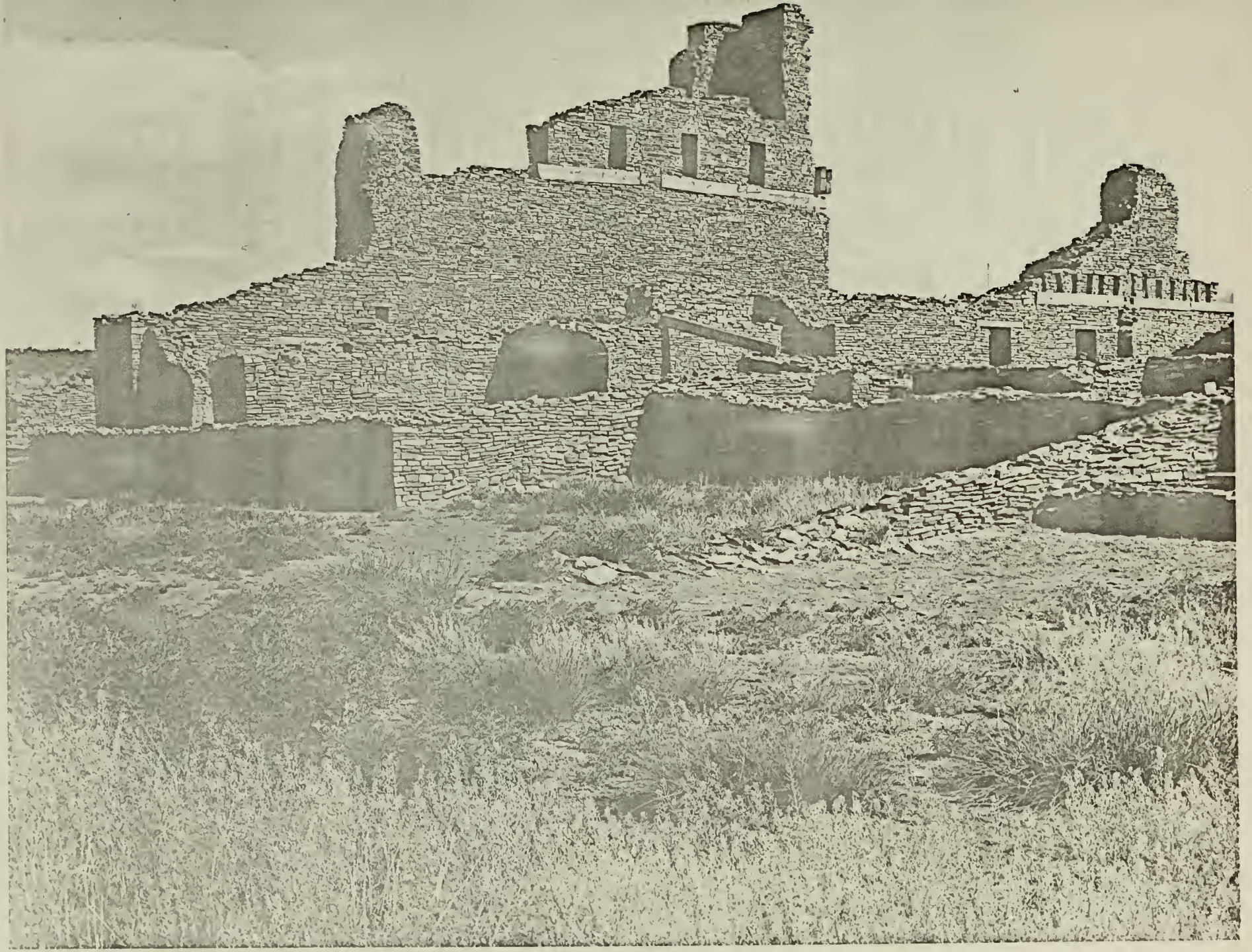
PROPOSED SALINAS NATIONAL MONUMENT

313	20014
OCT 74	DSC

PLATE 15



View of San Gregorio de Abo
showing existing intrusions and proposed development site



This alternative would not provide for the complete protection of the ruins, petroglyphs, and pictographs that exist outside the present boundaries of Abo. The five ranch complexes on the land surrounding the monument are visual intrusions on the historic scene, and there is no room for development within the boundaries. Any development would have to be outside the monument on privately owned land.

The preservation of the historical integrity of Quarai is not possible within the present boundaries. The visitor center is a visual intrusion and is built on, and adjacent to, a ruins mound. There is at present no area for relocation of the development elsewhere within the monument without esthetic intrusion or destruction of ruins.

Erosion control is also necessary in this area, but the origin of most of the erosion is outside the present boundaries. Without additional land any erosion controls within the monument would lead to only temporary stability, at best. A larger area is needed for an effective program.

DEVELOPMENT ALTERNATIVES BASED ON THE PROPOSAL

Gran Quivira – Alternative Visitor Contact Station Sites

Plate 13 shows alternate development sites considered in addition to the proposed northeast-slope site in the plan section. Site 1, the present development, was rejected because of its intrusion on the archeological resources.

Alternate site 2 is on the south slope of the monument and provides good access to the archeological resources through the proposed trail location and interpretive program. However, a pithouse and pueblo ruins are buried in up to 10 feet (3 m) of sand at this site. Extensive archeological exploration would be required to locate the visitor center and parking lot where construction would not result in extensive and irretrievable damage to archeological resources.

Although grazing has been discontinued for more than 60 years, the sandy soil of the slope is still subject to sheet erosion and denudation by water and "blowouts" by the ever-present wind.

The south slope is an unacceptable development alternative because of the natural and archeological constraints and the visual intrusion of the development upon the excavated ruins and the church.

Alternate sites 3 and 4 were also considered as possible development areas. Only a short access road would be required from the State road to the visitor center. These sites are well away from the archeological resources. They were seriously considered for this reason. However, there are drawbacks to the location of the

interpretive visitor center at these sites. Site 3 would have required additional land acquisition that would have caused adverse reaction by landowners. Additionally, impacts on the natural resources would be essentially the same for site 3 as for site 4; therefore, there is no need to place the development outside the present boundary.

The shorter road access would reduce construction costs somewhat, but the longer trail length to the ruins – a poorer location for start of the trail sequence, and a visual intrusion because of development from the ruins – made locations of sites 3 and 4 less desirable than the one selected and outlined in the plan.

Quarai

The proposed development location northeast of the church ruins and the present State-operated visitor center on the southwest side of the ruins are shown on Plate 14.

The existing site was the only one considered besides that of the proposal. The proposed monument area is so small that any other site would have required road and utility construction that is totally unacceptable to the natural environment and the esthetic senses. The east side of the monument is an open grassy valley, while the south side contains extensive areas of unexcavated ruins. It is also subject to periodic flooding. The west boundary is too close to the ruins to allow any development. The northwest area is at present a cultivated field subject to water and wind erosion. Proposed research projects will recommend a revegetation and soil stabilization program for this area for the protection of the unexcavated pueblo ruins.

The existing facility on the southwest side of the monument area is built on a mound that contains part of an archeological ruin. The visitor center and residences are visible from any location.

Abo

The proposed location of the Abo visitor center and the two alternate sites considered are shown on Plate 15. The first site is on the east side of Abo Wash at the foot of the ridge. There is evidence that the Indians had fields on the west-facing slope of the ridge. It is therefore probable that any development in this area would disturb these archeological sites. Because the Abo ruins lie in a small valley, any visitor facility in the valley would also be visible and thus an intrusion on the historical scene.

The other site considered is near the highway where the present road to the ruins begins. This site offers ease of access, lack of archeological resources, and presently disturbed areas that could be used for the proposed facilities. However, the distance from the ruins area would preclude all but the most hardy from enjoying the setting of this historic complex. Therefore, this alternative was also rejected.

THE ENVIRONMENTAL IMPACT OF THE PROPOSED ACTION

SOCIOLOGICAL IMPACTS

Legislative and Management Concepts

The acquisition of more than 480 acres (194 ha) of land called for in the proposal will cause sociological impacts to the families involved. Of the 11 landowners, 7 live on the lands to be purchased.

The impacts of displacement and forced migration as a result of government action are often evaluated only in terms of adequate or inadequate financial compensation. However, social and emotional effects can be quite severe and may actually outweigh economic problems.

Sociological studies have attempted to define just what makes an involuntary move stressful (Burdge and Ludtke 1970). The most significant factors seem to be identification with place and apprehension over new communities.

Identification with place is found to be strongest among persons who are older, have low mobility, live in rural settings, and have resided in the area a long time. Generally, these factors are commonly found in the affected project population.

Leaving a familiar place often involves the loss of close social associations for a totally new environment (e.g., moving from a farm to a city). When nearby replacement housing is not readily available, apprehension over moving to a new location is often substantial.

There will also be a noticeable social impact on the town of Mountainair because of the influx of new people, both National Park Service employees and visitors. Visitors are likely to have widely divergent social, ethnic, and economic backgrounds. Greater contact with the visitors may result in some disruption or change of the "normal" way-of-life for the people of the town.

Development Concepts

The proposed unit developments and interpretive themes will enhance the visitor's opportunities and those of the local populace to better understand the cultural background and history of the Salinas Province and its place in the Southwestern frontier.

ECOLOGICAL IMPACTS

Management Concepts

The acquisition and fencing of additional land around Abo and Quarai will reduce the present grazing impact.

Revegetation will aid in reducing soil erosion in all three areas; results of proposed research will lead to additional soil and moisture conservation practices. These should also help reduce erosion and possibly encourage natural succession. The consolidation of the three monuments and subsequent increased visitation will cause sanitation and solid-waste disposal problems.

Development Concepts

Proposed developments in all three sites will cause minor impact on the area. Obliteration of existing visitor facilities at Gran Quivira, any new construction, and underground utility hookups will cause minor ecological impacts during restoration and revegetation of the area, that is, erosion may temporarily increase during re-establishment. The proposed development calls for the removal of the visitor facilities from the proximity of the historical resources. They are to be replaced with a development that will have a minimum esthetic impact on the environment.

An increase in visitor traffic will lead to some disturbance of indigenous animals; however, many of the animals in the Sonoran life zone are nocturnal, and, because there will be no use of the monument sites after dark, the disturbance will be minimal.

ECONOMIC IMPACTS

Management Concepts

The proposed boundary change would result in the removal of approximately 480 acres (194 ha) from private grazing. Because approximately 50 acres (20 ha) per animal unit are required in the general area, grazing is considered very poor. This limited acreage represents no significant loss of grazing lands or local revenue.

A reduction of local government property tax will also occur when the land is purchased. The present yearly tax rate for grazing land in the affected area is approximately 7 cents per acre (17 cents per ha). Structures and residences around Abo would increase the rate somewhat, but the tax loss to Torrance County will be minimal.

Development Concepts

Proposed construction and stabilization projects will have a direct impact on the area's economy. It is anticipated that annual visitor use in Mountainair will increase to 120,000 by 1980. The detached areas will receive lesser impacts because visitation will be dispersed when it leaves Mountainair. The greater influx of visitors into Mountainair should increase the economic base of the community.

The programmed development at the three sites should result in a short-term monetary gain for the town because of the construction. If a suitable building can be found in Mountainair for the visitor orientation center, then the rent, or purchase price, will go to the owner(s). If one is not found, the General Services Administration will build a facility in the town, and there will again be short-term gain for Mountainair.

CULTURAL IMPACTS

Management Concepts

The proposal, if implemented, will lead to an increase of visitors of widely divergent backgrounds and life styles. There will certainly be some impact on the cultural and philosophical outlook of the local people, but the size and importance of this impact cannot be assessed at this time.

Development Concepts

Although surface archeological surveys have been completed for the three areas and no sites were found in the proposed development locations, it is possible that construction could damage or destroy buried archeological material.

MITIGATING MEASURES INCLUDED IN THE PROPOSED ACTION

In compliance with Section 106 of the Historic Preservation Act of 1966, a consultation with the State Historic Preservation Officer and the Advisory Council for Historic Preservation to determine the effect this undertaking will have on the national register sites is in process. An agreement in accordance with advisory council procedures to ensure the preservation of the historic integrity of the sites will be included in the final environmental impact statement.

In August and September 1973, in accordance with Executive Order No. 11593, Section 2, a National Park Service professional archeologist inspected all proposed development areas for archeological sites. No potential or significant sites were found in test trenches excavated within the proposed development locations, and the integrity of the national register sites will not be impaired. Such investigations ensure that visitor centers will not be built on or near ruins or other archeologically important sites.

The exclusion of livestock from Abo and Quarai is expected to substantially decrease the erosion problems as it has at Gran Quivira; the restoration of native vegetation should also be facilitated.

One of the primary effects of the proposal would be the enhancement of the historic and esthetic scenes by removal of existing facilities at Quarai and Gran Quivira from the proximity of the historic resources. The new facilities will be located where they will not intrude on the historic scene. The proposed boundary changes at Abo and Quarai, with the accompanying removal of farm buildings, will further enhance the integrity of the historical scene. With the acquisition of additional land, the petroglyphs and pictographs at Abo will be protected. The land acquisition will also protect outlying mounds and smaller features such as "field houses," small sites, and field plots. This is of extreme importance, because one of the major mounds just south of the present State boundary line at Abo has already had some limited "potting" in three or four of the roomblocks.

Trails will be selected to show the historical sequence of occupation and minimize ecological damage. Trails will be designed and constructed to facilitate visitor traffic and minimize erosion and impact on the historic scene.

The proposal as stated should lead to no significant pollution problems. The sewage from the proposed visitors' comfort stations will be subjected to secondary sewage treatment and the effluent leached into the ground, thus meeting current Environmental Protection Agency standards.

Gran Quivira presently has a sanitary landfill, and solid waste from Abo and Quarai will be hauled there. A county-wide solid waste disposal plan has been developed and is in the review process. Plan implementation will take place upon completion of review and selection of the most feasible alternative. At that time solid waste from Abo, Quarai, and Gran Quivira will be disposed of in accordance with the county plan.

The increased visitor traffic and subsequent increase in revenue to the community of Mountainair will more than compensate for the economic losses due to the removal of approximately 480 acres (194 ha) from private grazing and from the tax rolls.

National Park Service personnel at Abo and Quarai will provide protection from vandalism, and National Park Service stabilization programs will reduce deterioration of archeological resources.

The sociological impact of land acquisition and relocation will be reduced through the application of the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646 – passed by Congress and signed into law by the President on January 2, 1971). A booklet, "Information on Acquisition and Relocation Assistance," will be available for distribution to landowners to reduce to a minimum any inconveniences or

problems attendant to dislocation and relocation. Current and continuing information on the availability and the prices of comparable, decent, safe, and sanitary housing for sale and for rent, as well as on comparable commercial properties and farms will be made available. There are all types of land available for relocation within 50 miles of the proposed monument.

Section 202 of the Relocation Assistance Act provides that a displaced person, upon proper application, will receive: actual reasonable expenses in moving himself, his family, business, farm operation, or other personal property; actual direct losses of tangible personal property as a result of moving or discontinuing a business or farm operation, but not to exceed an amount equal to the reasonable expenses that would have been required to relocate such property; and actual reasonable expenses in searching for a replacement business or farm.

A person displaced from his home either may itemize his expenses — supported by documentation — or may choose to receive a dislocation allowance of $200, and a moving expense allowance not to exceed $300 from a schedule based upon the number of rooms in his home. Similar and alternate ways are available for computing benefits if a farm or business is displaced.

Section 203 of the law authorizes payments, up to a maximum of $15,000, to qualified owners of dwellings. This payment includes the following elements: the amount that, when added to the acquisition cost of the dwelling acquired by the National Park Service, equals the reasonable cost of a comparable, decent, safe, and sanitary dwelling; the amount that will compensate the displaced person for any increased costs he is required to pay for financing the acquisition of a comparable replacement dwelling; and the expense for title search, recording fees, and closing costs incidental to the purchase of his replacement home.

Payments made under Public Law 91-646 in no way reduce the price that the displaced person receives for his property. Rather, they are in addition to what is determined to be owed the landowner for the value of the property acquired.

The application of the Relocation Assistance Act and the aid provided by the land acquisition officer and his staff should do much to reduce the number and extent of economic and social problems that will necessarily result from the Salinas National Monument land acquisition.

When an individual tract of land is only partly within the boundaries of the national monument, there is a provision in the public law to avoid severance costs by acquiring the entire tract. Boundaries may then be altered, consistent with acreage limitations, or the land sold or exchanged for non-Federal lands within the proposed boundaries.

SIGNIFICANT ADVERSE EFFECTS THAT CANNOT BE AVOIDED SHOULD THE PROPOSAL BE IMPLEMENTED

There will be a loss of income from land uses that presently afford economic benefit to private interests. The proposal is formulated to add a total of approximately 480 acres (194 ha) of privately managed land to the Salinas National Monument.

Because dryland grazing in Torrance County requires up to 50 acres (20 ha) per animal unit, the area removed from production is negligible. However, the ranchers' loss of homes and lands, although compensated economically, may be an adverse sociological impact that is difficult to assess at this time.

THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The principle objective of the proposed Salinas National Monument is to provide the visitor with a comprehensive overview of prehistoric Indian life and the historic contact with the 17th-century Franciscan missionaries. The churches at the three sites are essentially unmodified originals surviving after three centuries and represent a special and significant local phase of the history of the Spanish Southwest. Management objectives are designed to provide the visitor with a comprehensive and coherent interpretation of the archeological sites and the history of the area and the mission ruins. The master plan provides for the increase and expansion of the visitor facilities and future excavations and stabilizations to further the visitors' understanding and appreciation of these areas. The implementation of these objectives and proposals will result in long-term benefits for the visitors.

Short-term uses and impacts resulting from this implementation are inevitable. The displacement of the people from the land proposed for acquisition is a short-term impact of the proposal. Even though they will be compensated

economically, these people will pay the "environmental cost" of the long-term enhancement of the historic environment.

The disruption of the Mountainair "way-of-life" and the gradual acclimation to the expected increase of visitors to the area will have short-term effects. Conversely the Mountainair facility and proposed special programming for interpretation of the history and prehistory of this general area can be regarded as long-term benefits for local and out-of-town school groups. Long-term benefits can also be gained from the facility by local ranchers and land owners through programs offered by the Soil Conservation Service and the Forest Service.

Short-term use of the monument may stimulate expansion of the regional tourist industry, but such stimulation is likely to be relatively minor because of limited recreational opportunities in the general area.

ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

There are no known irreversible commitments of resources foreseen by enactment of the proposal. However, no archeological surface study of a development area can positively state that the site is clear of cultural resources. If archeological materials are encountered during construction, work will be stopped until the site can be excavated by a professional archeologist. It is recognized, however, that even scientific excavations represent an irreversible and irretrievable commitment of archeological resources.

There are a few known irretrievable commitments of resources and, while their impact is small, they should be mentioned.

The proposed land acquisition will change land use from grazing to protected parkland with some loss in economic benefits.

The implementation of development concepts will irretrievably commit time and money to construction projects. There will be no irretrievable commitments of ecosystems because total structure removal and restoration of proposed development sites is possible at some future time.

CONSULTATION AND COORDINATION WITH OTHERS

CONSULTATION AND COORDINATION IN THE DEVELOPMENT OF THE PROPOSAL AND IN THE PREPARATION OF THE DRAFT ENVIRONMENTAL STATEMENT

Input into this proposal has been made through formal and informal consultation with the following agencies and groups:

- Advisory Council on Historic Preservation
- Department of the Interior
  - Geological Survey
- Department of Agriculture
  - Forest Service
  - Soil Conservation Service
- New Mexico State Planning Office

COORDINATION IN THE REVIEW OF THE DRAFT ENVIRONMENTAL STATEMENT

Distribution of the statement was made to the following with a request for comments:

- Advisory Council on Historic Preservation
- Department of the Interior
  - Bureau of Land Management
  - Bureau of Mines
  - Bureau of Outdoor Recreation
  - Bureau of Sports Fisheries and Wildlife
  - Geological Survey
  - Bureau of Indian Affairs
  - Bureau of Reclamation
- Department of Agriculture
  - Forest Service
  - Soil Conservation Service
- Department of the Army
  - Corps of Engineers
- Department of Transportation
- Environmental Protection Agency
- Office of the Governor, State of New Mexico
- New Mexico State Planning Office

interpretive prospectus

DRAFT

INTERPRETIVE PROSPECTUS

SALINAS NATIONAL MONUMENT

Revised 1/31/74

REVIEW NOTE

This prospectus has received technical review by interpretive specialists of the Harpers Ferry Center and the Denver Service Center. Interpretive objectives and thematic structure and emphasis were accepted without reservation. But there was concern that media functions, particularly the role of exhibits, might be too rigidly and ambitiously assigned in the Interpretive Treatment section. Therefore, HFC Manager Marc Sagan requested that one caveat be inserted, by this means: Combinations and assignments of media will be restudied by media experts during the detailed planning stages for each unit of the proposed national monument to assure proper balance and functioning of exhibits, objects, and audiovisual devices.

William E. Brown
Team Captain
5/9/74

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INTRODUCTION

About A.D. 800, village Indians began settling in what is now central New Mexico. The mountains and mesas of this region formed a frontier between a great river valley to the west and dry plains to the east. Through the passes and valleys of the highlands, trade routes funneled a varied traffic of people and goods – and precious salt from nearby salt marshes. From earliest times, then, the region's history was one of people and cultures intermingling, interacting, and blending.

Over the centuries subtle balances evolved, allowing the villagers to adjust both to this marginal land, and – through the lubricant of trade – to other Indians who bordered and traversed their country.

In the 1620's, the Spaniards came to this place of the salt trade, calling it Salinas Province. In the crucible of cultural contact they exerted new, extreme pressures that upset the previous balances. The villagers' relations with nature and with other peoples were stretched. The internal cohesion of the villages themselves weakened under the impacts of Spanish missionization and economic demands. Divided counsel among the Spaniards – between church and civil authorities – further strained human and environmental bonds.

For all of the Salinas Province, the 17th century was a time of turmoil, change, and finally, disaster. The century had opened with the advent of new men with new customs, new materials, and new religion. The excitement of "newness" evaporated, and the points where the two cultures abraded became festering sores. This strife between Spaniards and villagers coincided with increasing pressures from nomadic Indians of the plains, whose raiding parties spread pillage and death throughout the province. These human dislocations, compounded by natural disasters, proved fatal.

The Salinas Province, as a home for village Indians, as an outpost of Spanish missionary efforts and civil authority, ceased to exist.

INTERPRETIVE OBJECTIVES AND THEMES

To create from the historic-resources base of Salinas National Monument an environment that aids visitors to envision and, as appropriate, to vicariously experience:

The daily life of the prehistoric Indians of the region, stressing the environmental balances necessary in a marginal land.

The cultural dynamics of the prehistoric period, emphasizing the geographical and trade factors that fueled those dynamics.

The background, purpose, and operation of the Spanish frontier system from the Spanish viewpoint — with both ecclesiastical and secular motivations and modes fully developed.

The Indians' evolving view of and response to the Spanish incursion, in both its church and state manifestations.

The Spaniards' attempted cultural assimilation of the Indians through the mechanism of the mission community, with indication of both positive and negative dynamics that operated in the community.

The institution of the Inquisition as it operated in New Mexico, with special reference to its contribution to church-state conflict.

The economic dynamics that weakened the Salinas Province, showing the interaction between the supportive economics of the villagers; the exploitive economics of the Spaniards (both ecclesiastical and secular); and the trade, slavery, and raiding that involved the nomadic Indians of the plains.

These specific, subject-matter themes – based on the historic resources themselves – will be synthesized in the central interpretive facility, in selected general interpretive media (publications), and through media and personal-contact interpretation on site. The result of synthesis will be visitor understanding of a sweep of history showing:

Prehistoric settlement and accommodation in a marginal environment – a phenomenon characterized by subordination of human aspirations and demands to environmental limitations. *Then,* introduction of non-accommodating factors, through both the Spanish incursion and Apache raids, that upset the balances and led to the demise of the historic Salinas Province.

At the mechanical level, interpretive objectives include these basics:

Visitor experience in the dispersed units of the monument will be facilitated by adequate orientation at all units. Suggested visitor-use patterns – between units and within units – will accommodate varying visitor interest levels and time allocations.

Interpretive facilities and programs will judiciously mix:

- indoors and in-the-resources visitor involvement.
- personal-contact and media/device interpretation.
- directed and non-directed experience options.
- core- and extended-visit options, including in-depth interpretive experiences for the latter.

Interpretive facilities and devices in and adjacent to ruins will be blended into the ruins' setting in a way that does not detract from or distract visitors from the historic resources.

As an invitation to Spanish-speaking visitors, selected interpretive media and programs will be bilingual, and Spanish-speaking staff will be recruited.

Offsite interpretation will continue to be utilized to make the monument a cultural resource, not just an economic asset, of the nearby community.

ADMINISTRATIVE BACKGROUND

The interpretive program at Gran Quivira National Monument developed over the years since 1923 with no guidelines to chart its course. As new portions of the Pueblo de las Humanas and the Franciscan churches were excavated, they were tacked onto the existing self-guiding trail, and minor artifacts were added to the small exhibit room. The lack of a currently approved master plan and interpretive prospectus has prevented programming for an adequate visitor center/museum complex and for logically routed interpretive trails through the ruins. The interpretive theme followed in the past has dealt with Spanish exploration and settlement of the Southwest, and mainly concerned itself with the Franciscan mission churches constructed at Gran Quivira.

The master plan has been prepared under the theme "Indian meets European," and will concern itself with the interpretation of the religious, political, and cultural aspects of the Indian-Spanish encounter in the area of the monument.

The master plan envisions the addition of Abo and Quarai State Monuments to the existing Gran Quivira National Monument and establishment of a new "Salinas National Monument," with an administrative headquarters and visitor orientation center in the centrally located town of Mountainair. Small visitor centers will be constructed at the disjunct sites. Because this enlargement is not definite, and certainly not immediate, it is proposed that a visitor orientation center be developed in Mountainair with a smaller visitor center at Gran Quivira. The proposed development will dovetail into the addition of Abo and Quarai, if and when that occurs; if these additions should not occur, the proposed development will provide for essential offsite facilities for the management of Gran Quivira. This interpretive prospectus provides for either contingency.

HISTORY

The history of the Salinas Province centers around the European influence on the Indian settlements of Abo, Quarai, and Gran Quivira.

A set of natural conditions – good soil, game, water (at Abo and Quarai), a strategic trade position, and salt from evaporated Pleistocene lakes – attracted Indians to the Salinas Province as early as A.D. 800. Gran Quivira was on the northern fringe of the Mogollon culture, and the early pithouses contain Mogollon brownwares.

In the 12th century, Anasazi influence entered the Salinas Province from the north, most obviously with the introduction of the kiva. By the 1300's, the culture of the Salinas Province pueblos was very similar to that of the upper Rio Grande.

Approximately A.D. 1545, there was another cultural influx that included new pottery styles and the introduction of cremations. (This is based on excavation at Gran Quivira; future excavation may reveal that the same influx occurred at Abo and Quarai.)

Abo and Gran Quivira were continuously occupied up to the advent of the Spaniards. It is possible that Quarai may have been abandoned during prehistoric times and then resettled by the Spaniards in their attempt to consolidate the pueblos for church administrative purposes. If research confirms this resettlement, it is important and will be incorporated in the interpretive story.

Although the early Spanish *entradas* into New Mexico were not directly concerned with Salinas Province, they heralded the arrival of Hispanic culture in the Southwest. During the 17th century Spanish occupation of New Mexico, gold was no longer the driving force of Spanish expansion. Under heavy pressure from the Pope, the Spanish Crown now turned its efforts toward the salvation of Indian souls. The Franciscans were to represent the church in this effort.

At Abo, this religious activity in the Salinas Province was the longest and most consistent. Apparently the mission San Gregorio de Abo was manned almost constantly from the beginning of missionary activity in the middle 1620's to abandonment 50 years later. The church was large and elaborate, and possessed "a fine organ." Some other churches in the province became *visitas* of Abo during the periods when no priest was in residence. What little excavation has been carried on at Abo has concentrated on the Spanish buildings. Excavation of more of the pueblo is necessary, and may tell much about the effects the two cultures had on each other.

Quarai was more important as an ecclesiastical headquarters than as an Indian center. The two personalities of Spain – sacred and secular – developed a bitter rivalry during the 17th century, setting governor against *custodian*. This was a remote frontier, far from the influences of Mexico City and Spain, and the church was hard put to keep her "children" free of what she deemed "pagan superstitions and witchcraft" on this frontier. For these reasons, the Holy Office of the Inquisition was brought into New Mexico, and its headquarters was situated in the *convento* complex at Quarai. In the struggles that racked 17th century New Mexico, much of the planning and drama took place here, and much of it is preserved in available legal records.

Gran Quivira had less Spanish contact than either Abo or Quarai. Although it was the largest Indian village in the region, Gran Quivira was also the most distant from Santa Fe and was only sporadically a residence of the Holy Order. A mission was established and a church built in 1629, but from 1631 to 1659 there was no resident priest, and the mission became a *visita* of Abo. Two other priests served here subsequently, but apparently there was no priest in the mid-1670's when it was abandoned.

During the 17th century, the Franciscan missionary effort produced periods of intense activity in the Salinas Province – as evidenced by the great churches whose ruins still stand. But the Spanish presence also caused radical alterations in finely balanced patterns of existence evolved during previous centuries. At best, the province could produce only a meager surplus. Spanish demands – ecclesiastical and secular – and Apache raids drained off that surplus, and more. Ensuing human turmoil, combined with natural disasters, finally forced abandonment of the province by both villagers and Spaniards.

The theme of the monument under Part One of the National Park Service Plan – History – is Ic., "Indian meets European." The Salinas Province, with more excavation at Abo and Quarai, has the potential to be a classic study of this cultural contact.

EXISTING INTERPRETIVE FACILITIES

Gran Quivira has a completely inadequate, converted residence/museum and an illogically laid-out trail that has served the visitor fairly well with the use of a leaflet. The ruins are in a good state of preservation, but continuous maintenance stabilization is needed in excavated portions.

Quarai has a small combination visitor center/residence that is adequate for a "holding action," but is poorly situated and should be replaced. The present trail is poorly laid out and totally inadequate.

Abo has no visitor-use facilities.

THE VISITORS

At present the average visit to each of the monuments is less than an hour. A summer weekend will bring, at most, 400 people from Albuquerque to Gran Quivira on 1-day excursions; the visitation for Abo and Quarai is not known. Out-of-State tourism drops off drastically in the winter, but the local weekend outings continue. As a result of offsite interpretive activities, local schools use Gran Quivira for school field trips; however, energy limitations are dramatically decreasing winter use and school trips.

Assuming relief on the energy front, development of Abo and Quarai will increase visitation dramatically. The imminent paving of the section of New Mexico 14 between Gran Quivira and Carrizozo will create a natural vacation route connecting White Sands, Ruidoso, Carlsbad, and points south with Santa Fe, Pecos, and the Albuquerque-Gallup-Arizona route. The improvement of this section of New Mexico 14 should create a considerable increase in visitation at Gran Quivira.

The historical knowledge that visitors bring varies enormously. Some come with completely naive ideas of the West and of Indians; but the Southwest has a large number of amateur archeologists and historians, so there must be provision for in-depth interpretation.

PROPOSED INTERPRETIVE TREATMENT

INTERPRETIVE BASE

Following the broad National Park Service responsibilities in the interpretation of prehistoric and historic sites and in creating environmental awareness, there will be expression of the success and failures of the Indians and Spaniards in adapting to each other and to the environment of the Salinas Province. Historically, the broad idea of cultural contact will be examined through the specific instance of the Hispanic/Pueblo encounter. For clarity, each detached site will emphasize that part of the story most obviously found there:

Gran Quivira: changes in Indian life prior to and during the time of contact with the European (Theme Ic1), and Native migrations and warfare resulting from contact (Theme Ic2b);

Abo: the daily life of church and pueblo (Themes Ic2, Ic3);

Quarai: the institution of the church (and especially the Inquisition) as an arm of European culture; and Christianity versus the native religion (Ic2a, 2a3).

The interpretive thrust will be approached from four levels:

Level I — Mountainair Visitor Contact/Orientation Center: Here the visitor will contact the Salinas Province and its significance. He will also be made aware of the individual sites and be encouraged to visit them.

Level II – Individual Site Visitor Centers: At this point, the visitor receives information and views exhibits relating to the specific site, its importance, and its place in the Salinas Province story. He is further encouraged to visit the physical ruins.

Level III – Individual Site Physical Ruins: The interpretive trail leads the visitor to and through the area where the events occurred – the prehistoric and historic ruins. Here the story unfolds to the life of flesh-and-blood people; here the cultures meet face to face; here the changes and conflicts occur. At this point the personal interpreter, the mechanical audio medium, the signs, and the written word come into full use.

Level IV – Follow-up Information: At all the visitor centers there will be sales outlets where information will be available to the visitor who wants a "little more." Such information will be available in the form of publications, postcards, and visual reproductions.

VISITOR CENTER IN MOUNTAINAIR

Because there is no appropriate facility in Mountainair, the visitor orientation center and administration complex will be a new development. Such construction, combined with the relatively complete knowledge available from past years of administration of Gran Quivira, presents a superb opportunity to break the mold of the traditional "corn, beans, and squash" presentation on exhibits around the walls.

The function of the visitor orientation center will be twofold: To orient the visitor to the Salinas Province, its individual sites, and its role in prehistoric and historic periods; and to provide a central information/contact station for the visitor.

In the lobby area, the visitor will be greeted by a uniformed National Park Service employee. There will be a vicinity map display, immediately clearing up any question about the geography of the monument with its three outlying sites, and the visitor will be informed that Quarai is specifically suited for wheelchairs.

The orientation of the visitor will be accomplished through the following interpretive mediums – low-keyed exhibits, an audiovisual presentation, personal contact, and publications.

Exhibits

With a visitor orientation center remote from the individual sites, it is possible that visitors will pay it only one visit, either before or after visiting the sites. This necessitates anticipating questions that may arise while the visitor is at the individual site and "pre-answering" them. The Park Service experience at Gran Quivira, however, makes most of these questions predictable. The exhibits should not attempt to answer all the questions, but should support the audiovisual presentation. There should be no attempt to duplicate or to tell any portion of the story that can better be told at the individual visitor centers.

The following suggestions point out some possibilities for themes and subject matter. As set forth below, themes and subject-matter specifics are isolated for emphasis. Exhibit planners might well combine various elements in "action" exhibits – the origin of limestone building blocks might be a sidelight of an exhibit showing an Indian building of such blocks, rather than be treated in a specific exhibit on the Permian sea.

At a higher level, the natural scene and environment could be treated through the eyes of prehistoric and historic inhabitants, each of whom had a different set of approaches and needs in relation to that environment – an Indian villager was concerned principally with the basics of water, soil, slope gradients (for fields or terracing), and wild foods. A Spanish missionary, interested in conversion of souls, needed a village of Indians to instruct and convert – his direct concern was an environment with people; only indirectly did he care about soil, for such things were simply conditioning factors that allowed the congregation of people.

Another combining approach might be the use of a specific factor, such as salt, to illuminate a series of natural or human events – salt as a product of natural processes; salt as a stimulator of prehistoric trade; salt as a cause of conflict between church and civil authorities (salt shipped to Mexican mines produced income for colonists and civil authorities); salt as a contributor to the collapse of the province (village Indians carrying salt to the mines could not work their fields).

Thus might the following "blocks" of subject matter be manipulated for interpretive effect:

The Natural Scene

The natural backdrop of human occupation in what became the Salinas Province is crucial to visitor understanding of the history there. Major elements of this environment that attracted settlement include building materials, wild plants and animals, salt beds, soils, and a frontier-area

geographic location. Whether these elements are traced back to physical origins (ancient seas, climatic conditions, geologic forces), or treated simply as being there for the taking, the important interpretive goal is to work them into the human occupation/use story.

Sequence of Development
The goal is to establish a time frame showing a long Indian occupation prior to the brief cataclysm of Spanish presence. This kind of interpretive message is necessary to bring Indian-theme interpretation into proper focus – thus balancing the ruins scene, where mission/convento ruins dominate.

The Village Indians
This goal establishes the pueblos as functioning forms of society before European contact; describes the blending of Mogollon and Anasazi influences; shows that each pueblo was a distinct unit – like a city-state; provides transition to Spanish missionization effort by showing that missionaries could succeed in their mission only with village (as opposed to nomadic) Indians.

The Spaniards
This deals with the symbols of Spain and of Spaniards – the Iberian context that produced the men who explored, colonized, and converted the borderlands; and concentrates on the Catholic Church as the principal instrument of Spain's power in this province. The symbols here establish the Spaniards as tough and doctrinaire. People – however worthy their intent, given historical context – who *imposed* their ways and beliefs on the Indians.

(Note: Exhibits dealing with Pueblos and Spaniards *and* the cultural confrontation between the two should set the scene for narrative presentation in the audiovisual medium. The exhibits should not attempt to develop that narrative.)

The Salinas Province as a Trade Center
Shows the importance of salt as a trade medium and economic support factor in both the prehistoric and historic periods. Graphically portrays trade routes and sources of imported trade items such as shells, pottery, macaws, and tools. Establishes trade as a medium of cultural diffusion and as a tenuous and unpredictable bond between the Pueblos and the Indians of the Plains.

Conflict and Abandonment
Social and religious disruption caused by culture overlay.

Troubles with the Apaches.

Drought.

Disease.

This convergence of crises is the climax of "big picture" interpretation.

Orientation to Three Historic-Resource Sites
A major function of this interpretive center is to encourage visits to the individual ruin sites. Exhibits – invitational graphics and theme statements – should create the interest necessary to achieve this end.

Archeological Science
A possible exhibit theme at the Mountainair Visitor Center could tie-in to proposed excavations at Abo and Quarai. Treatment of artifacts, their significance as clues to the past, and the concept of a peek-in mini-laboratory would be an invitation to visitors to see excavations in progress at the sites.

(Note on exhibit resources: There are adequate artifacts in the Mound Seven collection stored at Tucson to supply Gran Quivira and the Mountainair Visitor Center. Should Abo and Quarai be transferred to the National Park Service, attempts should be made to obtain suitable artifacts from the Museum of New Mexico for collection and exhibit purposes, until such time as the National Park Service undertakes site excavation. In addition, there are existing models of La Purisima Concepcion and San Gregorio de Abo now on display at Quarai; and sufficient data exists to construct a model of San Buenaventura. Plant and animal specimens can be gathered locally.)

Audiovisual Program
It is proposed that a sound/color film be developed to provide for a historical overview of the area. This will be an orientation for the visitor and will place the time and events in perspective. Length of film should not exceed 15 to 20 minutes, and it should not attempt to tell all of the Salinas Province story. Activation should be upon demand in an auditorium with a seating capacity of 50, expandable to 100.

A film is preferable to lap/dissolve slides because of its story-telling power. If at all possible, it would be preferable to use live action in the film rather than artwork, unless the latter utilizes the "moving camera" technique to lend life to a photo or painting. For instance, a mere shot of hands coiling a rope on a wooden deck will be much more evocative of Columbus' voyage than a painting of the Santa Maria – and could be filmed on the Shenandoah at Harpers Ferry! This film, as well as the Mound Seven excavation film, will also be useful for specialized or offsite programs.

The conceptual frame for the film derives from the convergence of two major streams of culture in the Salinas Province: The Spaniards from their medieval and Catholic background, steel-tempered by eight centuries of religious and territorial warfare; the Pueblos from their desert culture background, possessed of a world view almost totally at odds with all things European.

Having established these cultural differences — in a context that properly respects the differing cultural premises and developments — the film would trace the historical forces and movements that brought the two cultures together in the Salinas Province.

Contact and convergence on the mission frontier would illustrate both adaptations and rejections, respectively, by Spaniards and Indians. Conflicts resulting from the rejections, as well as imbalances resulting from adaptations, would carry the next segment of the story. Exacerbation of these conflicts and imbalances by other forces — Apaches, church-state troubles, natural disasters — would illustrate the province's vulnerability.

Finally, the social- and natural-environment exhaustions produced by day-to-day attrition and periodic crises would set the stage for abandonment.

As fuel for thematic selection and combination, a film treatment prepared by area interpreter Dan Murphy is found in appendix A.

Personal Contact

Whether visitors stop at the Mountainair center first or arrive there after a site experience, personal contact of a high order is necessary. Orientation to the dispersed sites will require more than a mechanical or passive relationship between information-receptionists and their questioners. Followup visitors (those who have been to a site first) will want to discuss their experience with a knowledgeable, fluent, and friendly interpreter. This means that professional backup should be in-residence at all times at this center. Training of "desk" persons must be thorough, and audits of their performance must be constant.

Provision should be made in this center for a sit-down discussion corner — say, with a fireplace — where the interpreter can get together with an interested individual or group and talk over the Salinas Province story.

Publications

A free folder with *excellent* regional and site maps and brief descriptions of the interpretive themes at each site is essential. A full range of followup (take-home, read-at-leisure) publications of both special and general nature will be offered.

VISITOR CENTERS, INDIVIDUAL SITES

Gran Quivira

There is no point in having this visitor center (or those at the other sites) duplicate the main visitor orientation center; the great majority of visitors will have just been there, or will visit there after seeing the ruins. Rather it will serve for the area interpretive theme introduction, for exhibit of artifacts, and will provide work areas for and contact with National Park Service employees.

As at the Mountainair visitor orientation center, there will be regional orientation clarifying the locations of the monument's dispersed sites.

Substantive exhibits will not deal with the whole Salinas Province, but with the Gran Quivira site. Major emphases will be the chronological story of life on the hill and the theme of cultural change, both prehistorically (peripheral groups) and historically (the Spaniards). There should be exhibits showing the village's trade relations with the nomadic Indians to the east and south. Much of this can be artwork and photos with some appropriate artifacts.

Because visitation at any time should be roughly one-third of that at the central visitor center, more personal interpretation will be possible.

Quarai

The theme of Quarai is the institution of the Catholic Church, including the Inquisition, as a factor in the exploration and settlement of the New World. The following subthemes should be treated in the visitor center: orientation to the monurnent with its separate sites; the early discussions concerning Spanish abandonment of the unprofitable New Mexico colony; the decision that the Crown maintain and, in fact, underwrite the colony. The latter was based on Pope Alexander VI's *papal bull* charging the King of Spain with the care of the souls of New Mexico natives – this decision guaranteed the survival of the province and must be accented.

Several great 17th century ecclesiastics were stationed here, among them Esteban de Perea, Fray Nicholas de Freitas, and Fray Geronimo de la Llano. The story of one of them should be told. If Llano is chosen, Fray Angelico Chaves' photo of his opened sepulchre would be an effective exhibit resource.

The church-state controversy erupted as each jurisdiction attempted to extend its own powers. The Inquisition was brought in to enforce the Catholic Church side, and was effective in doing so. An exhibit showing the place of the Inquisition in the hierarchy of the church and its legal standing as an enforcement arm of the church would help interpret the reason for its existence at Quarai. Here also might

be exhibited instances of specific conflicts – use of Indians by both church and state, and so forth.

El Greco did a famous painting of Cardinal Nino de Guevara, one of the chief Inquisitors. A suitable reproduction would be appropriate.

A painting might portray the incident when Alcalde Major Aguilar broke up a mass by disputing the priest. This incident would lead into the final decay of church-state relations. The Freitas-Aguilar incident will present the situation in microcosm, with the added drama of known individuals.

In addition to available artwork, as referenced above, proposed excavations and existing collections at the Museum of New Mexico would provide rich artifact resources.

Abo

As at the other sites, orientation will immediately indicate the location of the detached sites of the Salinas Province.

The model of San Gregorio de Abo, presently at Quarai, might be located in this visitor center – placed in such a way that easy visual reference can be made from it to the ruins.

The theme at Abo will be that of the "pillar of society," the carrying on of the day-to-day work of the church and the pueblo. Much of the needed information on cultural contact lies underground, and excavation of some of the room blocks at Abo must be given a high priority.

One theme should illustrate the Indian polytheistic idea of "adding on" Christianity, as opposed to the padre's idea of "forsaking all else."

Spanish crop introductions should be documented and exhibited as should the Indians' gift of corn to Europeans. The introduction of domestic livestock to the Indian economy has its place at this visitor center.

INTERPRETIVE TRAILS, INDIVIDUAL SITES

After orientation in a visitor center, the public is now ready to "see what they came to see" – the prehistoric and historic evidence, the preserved ruins – the reason for the foregoing portion of this document. At this point we interpret through all available means the physical remains of the Salinas Province, the individual sites from which threads of the story have come.

It is proposed that to the greatest extent possible, interpretation at the sites be accomplished by the individual interpreter. Because it will not always be possible to reach the visitor through personal contact, we must develop interpretive trails, utilizing appropriate media, so that the visitor can self-interpret.

Gran Quivira

The interpretive trail will be developed to utilize the interpreter, and – as determined by media specialists – such media as signs, audio message repeaters, or a trail guide. (Should a trail guide be considered appropriate, it should be sectionized and contain trail information on all three sites.)

The Gran Quivira trail connects the new visitor center, situated to the north of the ruins, to the pueblo and church in a logical manner that follows the sequence of development of the village.

The first contact with the preserved ruin will be unexcavated mounds on the east end of the pueblo. From here the trail enters the plaza with its excavated kivas. The ceremonial and ordinary life of the pueblo could be interpreted here. Possibly a reconstructed kiva at this point would be an effective interpretive tool.

The trail will then tour Mound Seven with its excavated rooms. The circular roomblock under Mound Seven can be explained at the site of the double room. The excavated milling room can be effectively used to interpret foods, their preparation, and so forth.

At the west end of Mound Seven, the trail will pass the padre quarters, lead the visitor to San Isidro, the first church, and the campo santo. Represented here is the advent of the Spaniards at Gran Quivira.

Leaving San Isidro, the trail leads to San Buenaventura, the new church. Here the church, the convento, the corral, water storage, and so forth, can better be introduced and dealt with.

Returning to the visitor center from San Buenaventura, the trail can touch on a field, a water impoundment area, a quarrying area.

Listed as appendix B is a suggestion of how this interpretive trail might be laid out.

Quarai

The Quarai interpretive trail will be designed to be especially appropriate for wheelchairs. The trail will lead from the contact station toward the cottonwoods, providing picturesque changing views of the church. The cottonwoods-spring area will continue to serve as a picnic area. Because many visitors will spend some time

at this point, there can be extensive interpretation here using an appropriate medium.

The unexcavated prehistoric ruins will be pointed out without too much emphasis. If tests prove a gap in occupation, detail will be given in an appropriate medium.

Identify the "first church," and point out the simplicity of chapels built as *visitas* prior to construction of the convento.

The nave of the church is dramatic and should not be burdened with too much information. A hidden audio with an *a capella* Te Deum or other chant would enhance the feeling of ancient sacredness.

Upon entry into the convento, give a brief explanation of a garth. Personnel interpretation can enlarge upon the kivas in the garth; otherwise restrict it to a short explanation.

As much as possible, rooms will be identified as to function.

Explain convento operation.

If workrooms and the stable area can be identified, they should be designated. The trail then returns directly to the contact station.

Abo

At the present state of development, the trail will simply go through the church and convento, and interpretation will include church activities and then merely touch upon the unexcavated ruins. When the needed excavation is completed, of course, the trail will be updated and will show aspects of life in the pueblo.

Leaving the pueblo ruins, the return trail will be west of the descending trail and will cross the stream. The importance of this water source to the Indians (and even to the railroad in this century) will be expressed where the trail crosses the water. This will be done on the return rather than earlier, to break the uphill climb.

Enroute back to the junction, the trail passes definite terraced fields and probable field houses. These must be pointed out and the importance of European grains mentioned. The documented damage of mission herds to pueblo fields will be shown.

A secondary trail will be provided for those desiring a "little more." At the discretion of the ranger, some visitors may be directed to the rim of the mesa and

the petroglyphs there. Because of their easy destructability, they must *not* be on any regular, unpatrolled path.

PUBLICATIONS

Folder

The three sites are so intertwined, it is pointless to develop a separate folder for each. One folder will be developed to present the story and significance of the province as a whole. As indicated above, this publication will perform a major orientation function. It will be suitable for response to mail inquiries, distribution through regional outlets, and for a general introduction at any of the sites.

Handbook

An area handbook is necessary. It will be a sales item and will present the story of the province more completely than the folder. It should integrate the natural scene with the human one: the natural resources that drew the Indians here and their limitations, the 15th century European expansion that eventually reached here, the encounter of Christianity with the Pueblo cults, the native economy, the results of contact, and the eventual abandonment. Needed basic archeology at Abo and Quarai will produce information to be incorporated into the handbook. A handbook prepared for the Salinas Province will be suitable for Gran Quivira even if the proposed expansion does not take place, by placing Gran Quivira in its context.

Sales Items

Vivian's site report remains valid and will continue as a sales item. Al Hayes' report, when published, should also be made available.

Barbara Peckham's work on the kiva murals is the only Mound Seven professional paper that will be of interest to the general public, and it should be available as a sales item.

In addition to these publications bearing directly on the Salinas Province, other books on Southwest history and natural history will be available. Sales items like those presently being sold at Gran Quivira National Monument are appropriate.

Special publications on specific themes will be added to the sales list, as they are produced by National Park Service or other authors.

News Media

A facet of interpretation not requiring physical facilities is the publication of a column in local papers. The local editors are cooperative and because this practice has been started, with good community response, it should be continued.

MUSEUM AND LIBRARY COLLECTIONS

Choice artifacts from existing collections at the Arizona Archeological Center and the Museum of New Mexico, and from proposed excavations at Abo and Quarai will be used for permanent and rotating exhibits at each site. A small artifact storage area at each site visitor center will be adequate for storage of rotating exhibit items, and will double as a *limited* open-storage display to satisfy particularly interested visitors.

The same basic premises and bounds apply to the Mountainair center. But here representative samplings from all three ruins sites should be displayed as inducements to visit the sites – which means a larger collection than at individual sites, and a somewhat larger storage area.

Another classification scheme, as differentiated from the three-site *source* of artifacts, is based on cultural differentiation: Pueblo materials, Spanish materials, and materials representing a combination of Pueblo-Spanish traits, for example, certain ceremonial objects that combine both Indian and Christian symbolism. Other artifacts representative of trade items and relationships with Indians of the Plains might also increase space requirements.

In any event, the bulk of collections will remain in central repositories.

Each site should have a basic herbarium (display type) for ethno-botanical and natural-history interpretation. This would not involve any more than minimal storage space to accommodate seasonal differentiation of display items.

The study library now in existence at Gran Quivira should be held intact, but should be relocated at the Mountainair center. Each site visitor center should contain a core library of basic references.

PHASING OF INTERPRETIVE DEVELOPMENT

Three basic considerations suggest the sequence of interpretive developments:

1. The "dovetailing" principle set forth in the body of the proposal. (This relates to possible lags in Federal legislative programs that would authorize acceptance of and development funding for Abo and Quarai.)

2. The need for extensive stabilization of standing ruins at Abo and Quarai for resource preservation and visitor safety purposes.

3. The need for major excavation/stabilization of mounded ruins at Abo and Quarai for scientific and interpretive purposes.

In light of these considerations, development priorities would appear to fall in this order:

1. Package development of the proposed Mountainair-Gran Quivira facilities.

2. Stabilization, as legislation allows, of standing ruins at Abo and Quarai, leading to initial interpretive developments at these sites such as the visitor centers and interim interpretive trails.

3. Long-term excavation/stabilization of mounded ruins at Abo and Quarai in conjunction with documentary research leading (a) to additional scientific data, which would ramify throughout monument interpretive programs; and (b) to new trail-route options to take advantage of newly interpretable ruins.

Should specific Federal authorizing-and-funding legislation be too long delayed, an interim arrangement for National Park Service management and development of Abo and Quarai might be possible through contract or cooperative agreement with the State of New Mexico — as provided by the below-quoted provisions from the Historic Sites Act of 1935:

> The Secretary . . . through the National Park Service . . . shall . . .
>
> (b) Make a survey of historic and archeologic sites . . . (etc.) . . . for the purpose of determining which possess exceptional value as . . . illustrating the history of the United States . . .
>
> (e) Contract and make cooperative agreements with States, municipal subdivisions . . . (etc.) . . . to protect, preserve, maintain, or operate any historic or archeological building . . . (etc.) . . . used . . . for public use, regardless as to whether title thereto is in the United States. . . .

Such an arrangement would not substantially change the development phasing set forth above, but it would obligate the National Park Service to provide temporary interpretive facilities and programs at the two sites.

APPENDIXES
(Interpretive Prospectus)

A: SUGGESTIONS FOR MOUNTAINAIR CENTER INTERPRETIVE FILM

B: SUGGESTIONS FOR GRAN QUIVIRA INTERPRETIVE TRAIL

C: INTERPRETIVE PLANNING TEAM

A: SUGGESTIONS FOR MOUNTAINAIR CENTER INTERPRETIVE FILM

This detailed treatment is meant to be suggestive, not prescriptive. It is appended to this prospectus because it contains a wealth of thematic detail that can be sifted and evaluated for potential cinematic combinations by Harpers Ferry Center audiovisual laboratory personnel.

NARRATIVE	PICTURE
National Park Service identification.	Logo, title, credits, etc.
Setting stage – two cultures, independent of each other, circa 1400.	Globe, what the European thought was "the world" – the Indians' view.
The Salinas Province – located around salt beds, middlemen traders between Rio Grande Pueblos and Plains Indians, hunters & farmers – emphasize long residence here.	Appropriate paintings – does Pecos have paintings of trade fairs? Live pictures of the Willard salt beds, a hand scooping salt into a leather bag.
The Iberian peninsula – finally coalescing with a religious fervor to drive the Moors out.	Maps, battle drawing.
Fingers across the sea – the Moor conquered, explorers use the stored-up political, technological, and religious energy to expand. (See J. H. Perry, The Age of Reconnaissance.)	Expansion to the Orient (Duke of Albuquerque), as well as expansion to west. Columbus.
Things go on as usual in the Salinas Province; old reliable gods are worshipped.	Kiva construction, contemporary live ceremonials? Stone face.
European conquest of Mexico by Cortez – perhaps tie-in to Padre Island National Seashore.	Gold conquest, Aztec artifacts. Diving at Padre Island.
Exploration northward. Coronado, then Onate.	Coronado National Monument. Onate, documents.

Spaniards almost decided to give up, but Franciscans prevailed. "Forget the gold, there are souls to be saved."	Documents, boats carrying dispatches across the ocean. The use of documents will not only add authenticity, but give the viewer a look at the raw stuff of history. For example, a view of a document, focus in on the words, "Nuevo Mexico," then dissolve to sandals trudging across sand.
So the missionaries came north.	Franciscans, cross being erected in a pueblo.
One of the first priest's assignments included the Salinas Province, but his assignment was large, and it is doubtful that he ever did much here.	Priest riding on mule – slowly.
Eventually, the three largest villages did get resident priests. Perea came to Quarai, Acevedo to Abo, and Letrado to Las Humanas.	Focus in on names and assignments in documents.
The mission at Abo seems to have thrived: soon the Indians had gathered enough pinyon nuts to buy an organ!	Gathering pinyon nuts, cut to drawing from the New Mexico Historical Review of 17th century organ, appropriate music.
The work at Las Humanas started well.	San Isidro.
But after two years Letrado was killed at Zuni.	Tie-in to El Morro National Monument, Letrado inscription there.
Abo then took on Las Humanas as a *visita*.	Map showing relationship.
Meanwhile the Holy Office of the Inquisition was imported into the colony to purify the church here.	Documents behind a sheet of flame.

And the Holy Office of the Inquisition made its headquarters and offices at Quarai.	Camera from room to room in convento at Quarai.
The Catholic Church seemed to gain power in the 1650's; it forced the Indians to destroy many of their fetishes and religious objects.	Object thrown on heap.
And brought in more priests. One was assigned to renew the work at Las Humanas.	Hand-carried camera, along path from Abo – giving priest's-eye view.
He decided the old church was not worth fixing (it had been cannibalized for building material by the Indians).	Photo from Al Hayes' report of squared timbers in pueblo roomblock.
And began to build anew.	Stick outlining San Buenaventura in the dust.
At all the villages, it took time away from the fields for the Indians to build the great stone walls.	Split screen, three pictures, of hands building walls, two with red sandstone and one with grey limestone.
And in other ways things were not going well. Water was short, herdsmen harried.	Dry, cracked earth; Aquilar's ruling on moving cattle to Abo for water.
Apaches, their power multiplied by the horse, burned pueblo grain reserves.	Sounds of battle, shot of burning grain, maybe dissolved from shot of excavated burned grain.
So when drought came they were caught unprepared.	Documents on death, painting, maybe something on transverse lines in femora.
The resources of Mexico were far away, and the civil government had its own problems.	Open a treasury box – it's empty.

Trouble piled on trouble, and finally the Salinas Province was abandoned.

A rock falls from a stone wall.

Spaniards were driven out of New Mexico 8 years later, but after a decade returned — this time to stay.

Pictures conveying idea of Indians and Spaniards coexisting in New Mexico today, parts of each culture still intact.

They tried for a time to reoccupy Quarai, but without success.

Hand attempting to put fallen rock back in — it keeps falling out.

At Las Humanas even the name was forgotten! And years later when settlers did find these ruins, they thought this was "Gran Quivira," the lost city of gold that never was found by explorers.

Settler in farmer's clothes, looking around, scratching his head, maybe digging.

There was no gold, save that of historical knowledge. And to preserve that, the National Park Service now administers the ruins of the Salinas Province.

Entrance sign.

B: SUGGESTIONS FOR GRAN QUIVIRA INTERPRETIVE TRAIL

Station One: Unexcavated ruins – what the archeologist starts with. Graphic of half-excavated Mound Seven.

Station Two: Graphic of a contemporary plaza, Rio Grande Pueblo, and an audio of an Indian conversation. It will feature the life of the plaza – sound of dogs, turkeys, kids in background, routine activities. If possible, the script might include the consternation and drama of Onate's and Benavide's visits, *without* breaking the chronology of the trail. The trail has a good deal more Indian area before it gets to Spanish remains.

Station Three: Ceremonial structure – kiva: relate to Aztec National Monument, Chaco Canyon National Monument. Elaborate on little and big kiva – seldom occur in living pueblos – did in prehistoric times.

Station Four: Axe sharpening rocks. Simply identified.

Station Five: Reconstructed kiva. Conversation with visitors proves that merely excavated kivas completely fail to convey the drama of a kiva to persons unacquainted with the concept. The reconstruction will be obvious and so labeled, precluding misunderstanding. An audio might have kiva ceremonial music (quiet, background). A text-and-mural sign might describe something of the functions of a kiva. There will be occasions when extremely effective interpretation with small groups can be done here.

Station Six: Double room. A model to show sequence of construction here.

Station Seven: Milling bin room. Audio of quote from the journal of Coronado's expedition, or perhaps Pueblo corn-grinding song with quote in text form:

"Their houses are extremely clean in the places where they cook and where they grind flour. They do this in a separate place or room in which there is a grinding place with three stones set in mortar. Three women come in, each one to her stone. One crushes the corn, the next grinds it, and the third grinds it finer. Before they come inside the door, they

remove their shoes, shake their clothes, and cover their hair. While they are grinding, a man sits at the door playing a flute. They move their stones, keeping time with the music, and all three sing together. They grind a large amount at a time. They make all their bread in the shape of wafers, with flour mixed with hot water."

Station Eight: Padre quarters. Something noting size of walls and rooms, how it was added onto. This represents the advent of the Spaniards here.

Station Nine: Campo Santo.

Station Ten: San Isidro. Various furnishings. Depict use of various areas and rituals performed, also acceptance by the Indians.

Station Eleven: Considerably in front of San Buenaventura, this is a short reiteration of the hiatus, and the arrival of a new priest.

Station Twelve: Nave of San Buenaventura. Perhaps a hidden audio, near floor to enhance echo. Chant, drama of a priest far from home, bringing the Spanish cross to the Indians. 16th century church music.

Station Thirteen: Corral — use the documented move of cattle from Gran Quivira to Abo because of water shortage to lead in to abandonment. Create atmosphere with sound of livestock. Explain lack of entryway.

Station Fourteen: A field. Changeable interpretation, related to time of year. Actual planted crops of Indian crops and European introductions.

Station Fifteen: The dam on the arroyo northeast of San Buenaventura. Good place for examination of Indian water problems and solutions.

Station Sixteen: Rock outcrop — stone quarrying.

Station Seventeen: And on back to contact station. Identification of plants and their uses — adjusted seasonally for blooming, production of fruit, and so forth.

C: INTERPRETIVE PLANNING TEAM

William Brown, Chief, Divison of Historical Properties
Southwest Region, Team Captain

Byron Hazeltine, Superintendent
Gran Quivira National Monument

Daniel Murphy, Park Ranger (Interpreter)
Gran Quivira National Monument

Albert Schroeder, Chief, Division of Interpretation
Southwest Region

Thomas Lubbert, Landscape Architect
Division of Planning and Design, Southwest Region

APPENDIXES
(Master Plan)

A: LEGISLATION

B: BIBLIOGRAPHY

C: SUPPLEMENTAL BIBLIOGRAPHY

D: GRAN QUIVIRA MP/DCP CONSTRUCTION COST ESTIMATE

E: PLANNING TEAM AND CONSULTANTS

37. Gran Quivira National Monument

Page
Establishment: Proclamation (No. 882) of November 1, 1909..... 200
Boundaries enlarged: Proclamation (No. 1545) of November 25, 1919..... 201

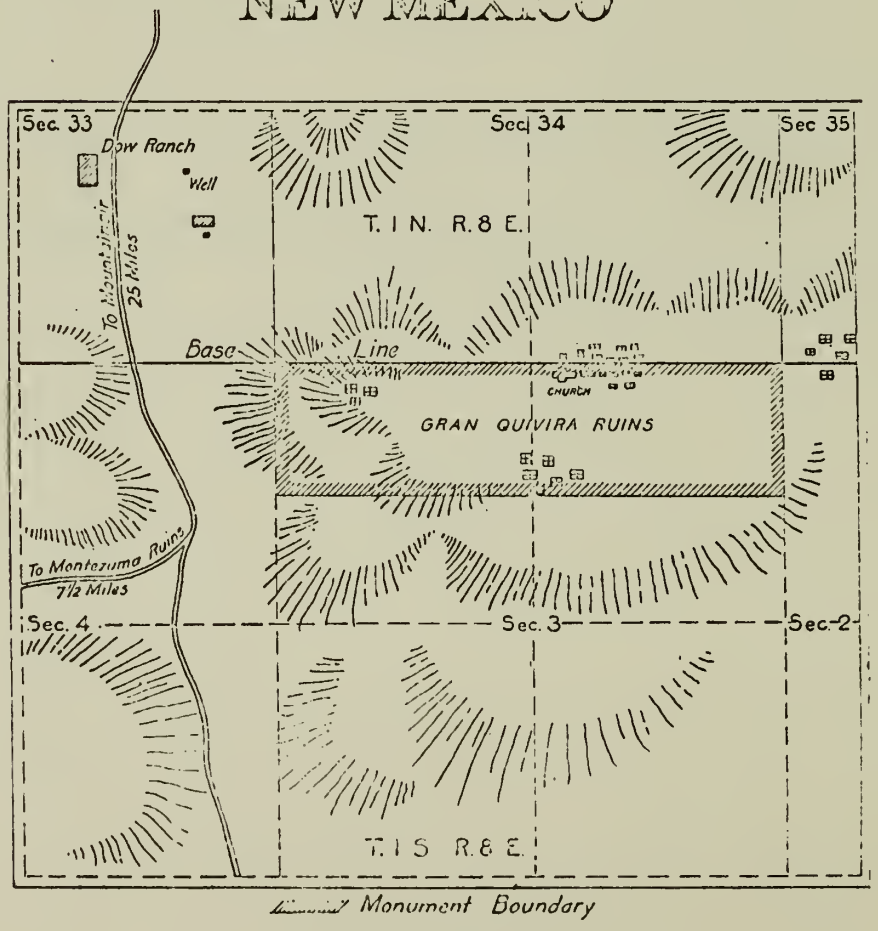
BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

[No. 882—Nov. 1, 1909—36 Stat. 2503]

WHEREAS, one of the largest and most important of the early Spanish church ruins, commonly known as the Gran Quivira, together with numerous Indian pueblo ruins in its vicinity, situated in Socorro County,

Embracing unsurveyed N² of N² of Sec. 3, T 1 S., R. 8 E., New Mexico Principal Meridian.



200

New Mexico, are of great historical interest, and it appears that the public interest would be promoted by reserving these ruins with as much public land as may be necessary for the proper protection thereof,

NOW, THEREFORE, I, William H. Taft, President of the United States of America, by virtue of the power in me vested by Section Two of the Act of Congress approved June 8, 1906, entitled, "An Act for the Preservation of American Antiquities", do hereby set aside as the Gran Quivira National Monument the Spanish church ruin and the Indian pueblo ruins situated in unsurveyed Township One South, Range Eight East of the New Mexico Principal Meridian, New Mexico, and located within and embracing all of the North half of the North half of Section Three of said township, containing one hundred and sixty acres of land, more or less, as shown upon the diagram hereto attached and made a part of this proclamation.

Warning is hereby expressly given to all unauthorized persons not to appropriate, excavate, injure or destroy any of the ruins or relics hereby declared to be a National Monument or to locate or settle upon any of the lands reserved and made a part of said monument by this proclamation.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

DONE at the City of Washington this 1st day of November, in the year of our Lord one thousand nine hundred and nine, and of [SEAL] the Independence of the United States the one hundred and thirty-fourth.

WM. H. TAFT.

By the President:
P. C. KNOX,
Secretary of State.

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

[No. 1545—Nov. 25, 1919.—41 Stat. 1778]

WHEREAS it appears that the public good will be promoted by adding to the Gran Quivira National Monument certain lands in the State of New Mexico containing ruins of archaeological value;

NOW, THEREFORE, I, Woodrow Wilson, President of the United States of America, by virtue of the power vested in me by section two of the Act of Congress approved June 8, 1905, entitled "An Act for the Preservation of American Antiquities" (34 Stat., 225), do proclaim that said lands, to-wit, the tracts described as the S½ SW¼, and S½ SE¼, Sec. 34, the S½ SW¼ Sec. 35, T. 1 N., R. 8 E., and unsurveyed lands which by protraction of the lines of the public survey in T. 1 S., R. 8 E., would probably be described as the N½ NW¼ Sec. 2 and the N½ NE¼ Sec. 3, in T. 1 S., R. 8 E., New Mexico Principal Meridian, are hereby reserved from appropriation and [illegible] under the public land laws, subject to all prior valid claims, and set apart as an addition to the Gran Quivira National Monument, and that the boundaries of said national monument are now as shown on the diagram hereto annexed and forming a part hereof.

Warning is hereby given to all unauthorized persons not to appropriate or injure any natural feature of this monument or to occupy, exploit, settle, or locate upon any of the lands reserved by this proclamation.

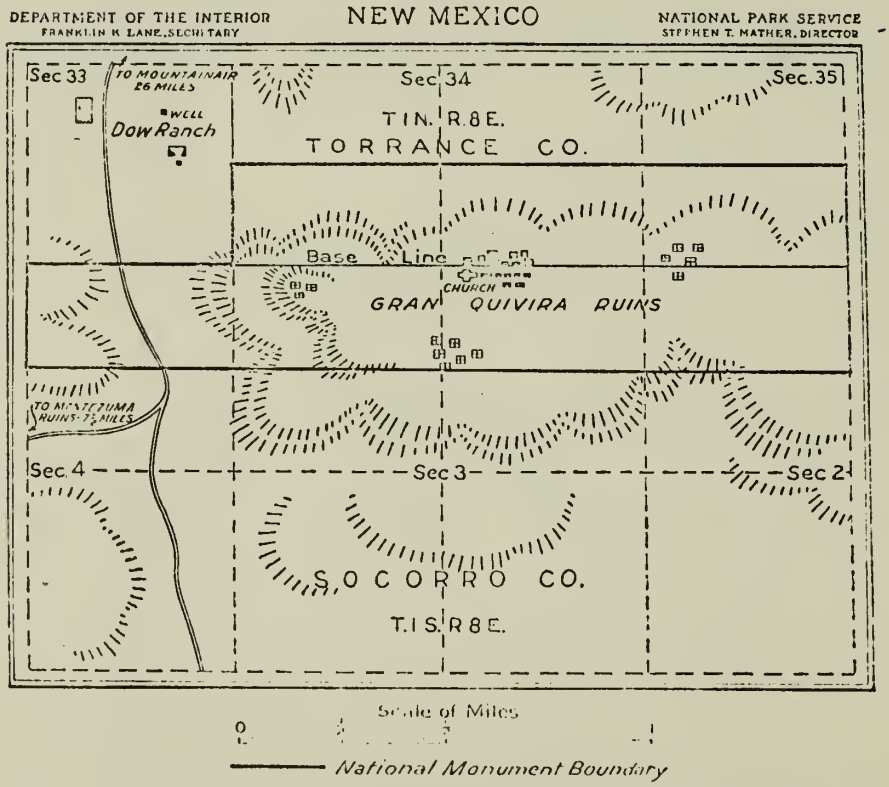
The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have the supervision, management, and control of this monument, as provided in the Act of Congress entitled "An Act to establish a National Park Service, and for other purposes," approved August 25, 1916 (39 Stat., 535).

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

DONE in the District of Columbia this 25th day of November, in the year of our Lord one thousand nine hundred and nineteen, and [SEAL] of the Independence of the United States of America the one hundred and forty-fourth.

WOODROW WILSON.

By the President:
ROBERT LANSING,
Secretary of State.



GRAN QUIVIRA
NATIONAL MONUMENT

Executive Order

NEW MEXICO

Under authority of the Act of Congress approved June 25, 1910 (36 Stat., 847), as amended by the Act of August 24, 1912 (37 Stat., 497), it is hereby ordered that the following lands in the State of New Mexico be temporarily withdrawn, subject to the conditions, provisions and limitations of said acts, for classification and pending determination as to the advisability of including such lands within the Gran Quivira National Monument:

In T. 1 N., R. 8 E., S½, SW¼ Sec. 34;

And unsurveyed lands which by protraction of the lines of the public survey in T. 1 N., R. 8 E., would probably be described as the N½ NW¼ Sec. 2, and N½ NE¼ Sec. 3, in T. 1 S., R. 8 E.,

New Mexico Principal Meridian.

WOODROW WILSON

THE WHITE HOUSE,
11 January, 19[illegible]

[No. 2511.]

71ST CONGRESS
2D SESSION

H. R. 7740

IN THE HOUSE OF REPRESENTATIVES

DECEMBER 17, 1929

Mr. ROMJUE introduced the following bill; which was referred to the Committee on the Public Lands and ordered to be printed

A BILL

For the relief of J. B. Wofford.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Interior is hereby authorized and empowered to grant permission to J. B. Wofford to explore and excavate for a buried treasure alleged to be in the Gran Quivira National Monument and for which treasure the said J. B. Wofford holds a deed or other proof of title thereto, subject to such conditions as the Secretary of the Interior may prescribe, and subject further to the right of the United States to all objects of antiquity of whatsoever nature.

B: BIBLIOGRAPHY

The following list of publications and manuscripts may be considered a selected bibliography to those writings pertaining directly to the archeology of Gran Quivira, Abo, and Quarai. Other publications have been selectively included when it is felt they would support the general story of the three areas.

Adams, Elenor B. and Angelico Chavez.

1956. *The Missions of New Mexico, 1776 – A Description by Fray Atanasio Dominguez.* University of New Mexico Press, Albuquerque, New Mexico.

Atwell, W. G.

1932. "Report on Treasure Excavations at Gran Quivira." *Southwest National Monument Supplement,* November 1932, Coolidge, Arizona.

Baker, Ele M.

n.d. "Report of Stratification Tests at Quarai." Manuscript on file, Department of Anthropology, University of New Mexico, Albuquerque, New Mexico.

Bandelier, Adolf F.

1930. "Documentary History of the Rio Grande Pueblos." *New Mexico Historical Review,* Volume V, No. 1, Santa Fe, New Mexico.

Bates, Robert L., R. H. Wilpot, A. J. MacAlpin, and George Vorbe.

1947. "The Geology of the Gran Quivira Quadrangle, New Mexico." Bulletin 26, New Mexico Bureau of Mines and Mineral Resources, Socorro, New Mexico.

Bloom, Lansing B.

1933. "Fray Estevan de Perea's Relacion." *New Mexico Historical Review,* Volume XIII, No. 3, Albuquerque, New Mexico.

------.

1935. "A Trade Invoice of 1638." *New Mexico Historical Review,* Volume V, No. 3, Albuquerque, New Mexico.

Bloom, Lansing B. and Lynn B. Mitchell.

1938. "The Chapter Elections in 1672." *New Mexico Historical Review,* Volume XIII, No. 1, Albuquerque, New Mexico.

Bolton, Herbert Eugene.
1916. *Spanish Exploration in the Southwest, 1542-1706.* Charles Scribners and Sons, New York, New York.

Briggs, Walter.
1973. "The Cities that Died of Fear." *New Mexico Magazine,* July/August.

Caperton, Thomas J.
1972. "A Surface Reconnaissance of the Gran Quivira Area." Report submitted to the National Park Service.

Carleton, James H.
1854. "Diary of an Excursion to the Ruins of Abo, Quarai, and Gran Quivira in New Mexico." Ninth Annual Report of the Smithsonian Institution, Washington, D.C.

Dutton, Bertha P.
1944. "Excavations at Abo, October 24-November 4, 1944." Field Notes, Museum of New Mexico, Santa Fe.

Ely, Albert Grim.
1935. "The Excavation and Repair of Quarai Mission." *El Palacio,* Volume 39, No. 25-6, Santa Fe.

Fenenga, Franklin.
1956. "A Mogollon Village near Gran Quivira, New Mexico." In *Pipeline Archeology* edited by Fred Wendorf, Laboratory of Anthropology and Museum of Northern Arizona, Santa Fe and Flagstaff.

Gifford, E. W.
1940. "Culture Element Distributions: Apache-Pueblo." *Anthropological Records,* Volume 4, No. 1, University of California Press, Berkeley.

Goggin, John M.
1968. *Spanish Majolica In the New World: Types of the Sixteenth to Eighteenth Centuries.* Yale University Publications in Anthropology, No. 72, New Haven.

Green, F. E.
1955. "Excavations Near Gran Quivira, New Mexico." *Bulletin of the Texas Archeological Society,* Volume 26, Austin.

Hackett, Charles Wilson.
1937. "Historical Documents Relating to New Mexico, Nueva Viscaya and Approaches thereto to 1773." Volume III, Carnegie Institution, Washington.

Hammond, George P. and Agapito Rey.
1929. *Expedition into New Mexico Made by Antonio de Espejo, 1582-1583. (Tuxan),* the Quivira Society, Los Angeles.

------.
1953. *Don Juan de Onate, Colonizer of New Mexico. Coronado Cuarto – Centennial Publications,* Volumes V and VI, University of New Mexico Press, Albuquerque.

------.
1966. *The Rediscovery of New Mexico, 1580-1594.* Coronado Cuarto – Centennial Publications, Volume III, University of New Mexico Press, Albuquerque.

Hayes, Alden C.
1972. "The Excavation of Mound 7 at Gran Quivira National Monument." Report submitted to the National Park Service.

Hemmings, E. Thomas.
1967. "Cruciform and Related Artifacts of Mexico and the Southwestern United States." *The Kiva,* Volume 32, No. 4, Tucson.

Hewett, Edgar L.
1923. "Gran Quivira Work, 1923." Preliminary Account, (Unpublished Ms).

------.
1925. "Gran Quivira Expedition, 1925." (Unpublished Ms).

Hewett, Edgar L. and Reginald G. Fisher.
1943. *Mission Monuments of New Mexico.* Handbooks of Archeological History, University of New Mexico Press, Albuquerque, New Mexico.

Hodge, Frederick W., G. P. Hammond, and Agapito Rey.
1945. "Fray Alonso de Benavides Revised Memorial of 1634." Coronado Cuarto – Centennial Publications, Volume IV, University of New Mexico Press, Albuquerque.

Howard, Richard M.
1959. "Comments on the Indian's Water Supply at Gran Quivira." *El Palacio,* Volume 66, No. 3, Santa Fe.

Ice, Ronald J.
1968. *A Report on 1964 Excavations at Gran Quivira.* Report submitted to the National Park Service.

Jennings, Jesse D.
1940. "A Variation of Southwestern Pueblo Culture." Laboratory of Anthropology Technical Series, Bulletin No. 10, Santa Fe.

Kubler, George.
1939. "Gran Quivira-Humanas." *New Mexico Historical Review,* Volume XIV, No. 4, Albuquerque.

------.
1940. "The Religious Architecture of New Mexico." Contributions of the Taylor Museum, Colorado Springs.

Lehmer, Donald J.
1948. "The Jornada Branch of the Mogollon." Social Science Bulletin No. 17, University of Arizona, Tucson.

Meinzer, Oscar E.
1911. "Geology and Water Resources of Estancia Valley, New Mexico." U.S.G.S., Water Supply Paper 275, Washington, D.C.

Mera, H. P.
1931. "Chupadero Black on White." Laboratory of Anthropology, Archeological Survey, Bulletin No. 1, Santa Fe.

------.
1933. "A Proposed Revision of the Rio Grande Glaze Paint Sequence." Laboratory of Anthropology Technical Series, Bulletin No. 5, Santa Fe.

------.
1935. "Ceramic Clues to the Prehistory of North Central New Mexico." Laboratory of Anthropology Technical Series, Bulletin No. 8, Santa Fe.

Mera, H. P.
1939. *Style Trends of Pueblo Pottery in the Rio Grande and Little Colorado Cultural Areas from the Sixteenth to the Nineteenth Centuries.* Memoirs of the Laboratory of Anthropology, Volume III, Santa Fe.

------.
1940. "Population Changes in the Rio Grande Glaze-Paint Area." Laboratory of Anthropology Technical Series, Bulletin No. 9, Santa Fe.

------.
1943. "An Outline of Ceramic Developments in Southern and Southeastern New Mexico." Laboratory of Anthropology Technical Series, Bulletin No. 11, Santa Fe.

Montgomery, Arthur.
1963. "The Source of Fibrolito Axes." *El Palacio.* Volume 70, Nos. 1 and 2, Santa Fe.

Peckham, Barbara A.
n.d. "The Mural Decorations at Mound 7, Gran Quivira National Monument." Manuscript in preparation.

Reed, Erik K.
1971. *Human Skeletal Material from the Gran Quivira District.* Report submitted to the National Park Service.

------.
n.d. "Special Report Covering Quarai State Monument." In the files, Southwest Regional Office, NPS and Research Division, Museum of New Mexico, Santa Fe.

Stubbs, Stanley A.
1959. " 'New' Old Churches Found at Quarai and Tabira." *El Palacio,* Volume 66, No. 5, Santa Fe.

Toulouse, Joseph H., Jr.
1945. "Early Water Systems of Gran Quivira National Monument." *American Antiquity,* Volume X, No. 4, Salt Lake City.

------.
1949. "The Mission of San Gregorio de Abo." School of American Research, Monograph No. 13, University of New Mexico Press, Albuquerque.

Vivian, Gordon.
1964. "Excavations in a 17th Century Jumano Pueblo, Gran Quivira." National Park Service, Archeological Research Series, No. 8, Washington, D.C.

Warren, Helene.
1969. "Tonque: Glaze Pottery Industry." *El Palacio,* Volume 76, No. 2, Santa Fe.

Wilson, John P.
1973. "Quarai." *El Palacio,* Volume 78, No. 4, Santa Fe.

C: SUPPLEMENTAL BIBLIOGRAPHY

In addition to the references on archeology and history, the following sources contain pertinent information on Gran Quivira, Abo, and Quarai, and the surrounding area.

Blair, F. W., A. P. Blair, P. Brodkorb, F. R. Cagle, G. A. Morre.
1957. *Vertebrates of the United States.* McGraw-Hill Book Co., Inc., New York.

Borror, D. J. and D. M. DeLong.
1955. *An introduction to the study of insects.* Rinehart and Company.

Burdge, R. J. and R. L. Ludtke.
1970. "Forced migration; social separation among displaced rural families." Paper presented at the 1970 Annual Meeting of the Rural Sociological Society, Washington, D.C.

Correll, D. S. and M. C. Johnston.
1970. *Manual of the vascular plants of Texas.* Texas Research Foundation, Renner, Texas.

Cummings, Calvin R.
1970. "Operations Evaluation Data, Gran Quivira National Monument."

Fenneman, Nevin M.
1931. *Physiography of western United States.* McGraw-Hill Book Co., Inc., New York.

Howell, C. T. and S. F. Wood.
1957. "The prairie rattlesnake at Gran Quivira National Monument, New Mexico." *Bulletin, So. Calif. Academy of Sciences* Vol. 56, No. 2, pp. 97-98.

Lamb, S. H.
1971. "Woody plants of New Mexico and their value to wildlife." New Mexico Department of Game and Fish, Bulletin No. 14.

New Mexico State Highway Department.
1972. "New Mexico Traffic Survey." Planning and Programming Division in co-operation with the U.S. Department of Transportation, Federal Highway Administration.

Outdoor Recreation Resources Review Commission.

1962. *Outdoor Recreation for America.* U.S. Government Printing Office, Washington.

Swanson, E. W.

1969. *Travel and the National Parks: An Economic Study.* U.S. Department of the Interior, National Park Service.

U.S. Department of Agriculture.

1969. *Outdoor Recreation Potential for Torrance County, New Mexico.* Compiled by the Soil and Water Conservation Districts of Torrance County and the State Planning Office.

------.

1970. *Soil Survey, Torrance Area New Mexico.* Prepared by the Soil Conservation Service, the Forest Service, and the New Mexico Agricultural Experiment Station.

U.S. Department of Commerce.

1970. *Census of population: 1970.* General social and economic characteristics, New Mexico. Bureau of the Census.

U.S. Department of the Interior.

1956. "Check list of birds for Gran Quivira National Monument." Mimeo. National Park Service.

------.

1964a. *Master Plan of Gran Quivira National Monument.* National Park Service.

------.

1964b. *Salinas National Monument, New Mexico, A Proposal.* National Park Service.

------.

1973. "New Mexico Westwide State Report." Bureau of Reclamation.

------.

1972. "Part one of the National Park System Plan, History." National Park Service.

D: GRAN QUIVIRA MP/DCP CONSTRUCTION COST ESTIMATE

	Mountainair	Gran Quivira	Quarai	Abo
Combination visitor center, admin. bldg. and maint. facility — 6,000 SF	$360,000			
Remove existing visitor center/ admin. bldg. and site restoration		$ 10,000		
Visitor Contact Station (1,800 sq. ft. each)		$ 70,000	$ 70,000	$ 70,000
Picnic Area (30 sites including utilities and C.S.)		$100,000		
Access Road		$150,000	$ 7,000	$113,000
Parking Area		$100,000	$ 50,000	$ 50,000
Housing		Exists	$ 70,000	$ 70,000
Land Acquisition			$ 17,500	$145,250
Trails (surfaced)		$ 15,000	$ 20,000	$ 40,000
Wayside Exhibits (estimate by Harpers Ferry Center)	-	-	-	-
Water System		$ 23,000	$ 23,000	$ 80,000
Sewerage System		$ 5,000	$ 5,000	$ 5,000
Power		$ 55,000	Exists	$ 36,000
Telephone		$ 15,000	Exists	$ 10,000
LP Gas		Fuel Oil at Present Develop.	$ 10,000	$ 10,000
Visitor Center Exhibits (A/V, etc., See bldg. size)	By HFC			

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